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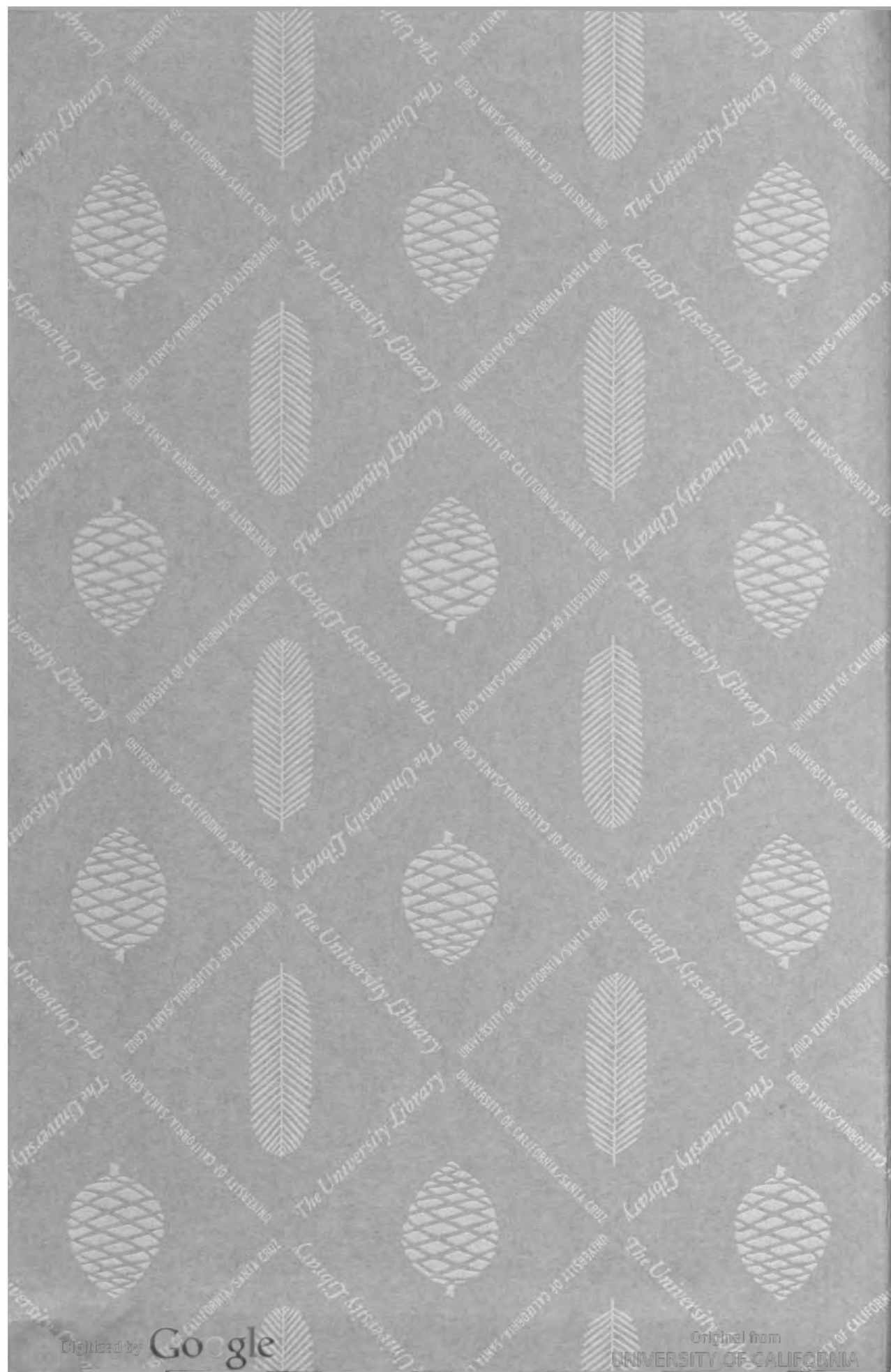


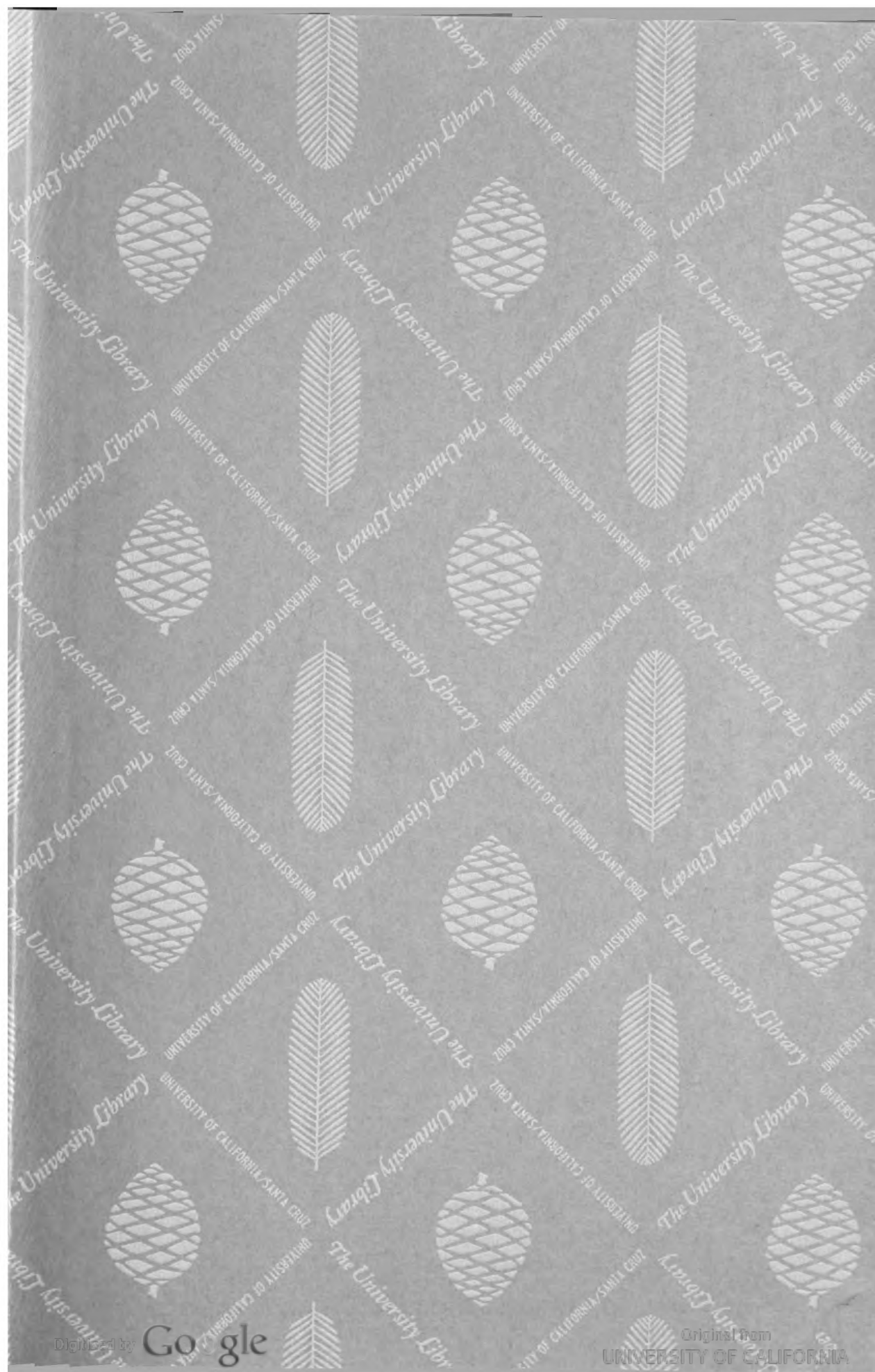
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AMERICAN NUMISMATIC SOCIETY, ~~NEW YORK~~
NUMISMATIC NOTES AND MONOGRAPHS

No. 133

THE AES COINAGE OF GALBA

By C. M. KRAAY

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Number 133

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The Aes Coinage of Galba

By C. M. KRAAY

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NEW YORK

1956

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PREFACE

The present study at first formed part of a monograph on the *aes* coinage of the period A.D. 68–71 which was awarded the Conington Prize in 1951 and was subsequently, in an enlarged form, submitted as a D. Phil. thesis in the University of Oxford. The original object was to test the system of mints proposed for the *aes* coinage of Vespasian in *BMC* II; in the course of this, as a result of observing reverse dies common to Galba and Vespasian, the starting point was moved back to A.D. 68, so as to include the coinage of Galba. In the event, the organization of the mints in the two reigns proved so different that they could be made the subjects of separate studies. I hope that I may be able, at a later date, to publish a similar study of the *aes* of Vespasian.

Records of about 550 sestertii of Galba have been collected from all sources, and reference to the Catalogue of Dies will reveal how generously keepers of public collections, private collectors and dealers have all given access to material under their control. It was also a fortunate coincidence that the period in which this study was being prepared also saw the dispersal in London of several major collections (Hall, Lawrence and Ryan); I was thus able personally to examine and record (and hence to illustrate in the plates) many coins which might otherwise have remained known to me only from sale catalogues of the past. The number of coins recorded could have been substantially increased, but a halt had to be made somewhere, and the absence of any collection from the Catalogue of Dies should not be construed as evidence of inaccessibility. It seemed that the material here collected yielded a sufficiently clear picture of mint activity which would be altered only in details by further additions.

Obligations are, as always, numerous and of these many are hard to define; only the most obvious can be recorded. Among these are clearly to be placed the generous grants received at Oxford from Magdalen College, the Ashmolean Museum and the Craven Committee,

which enabled me to visit collections in Paris, Vienna, Munich and Bonn. Outstanding among personal obligations is that to my colleague and supervisor, Dr. C. H. V. Sutherland, whom I have to thank not only for my induction into the techniques of numismatic study, but also for unfailing readiness to discuss sympathetically any matter, large or small, at any time. For photography I have to thank Mr. H. N. Newton and Miss O. M. Godwin of the Ashmolean Museum, and for the preparation of what must have seemed meaningless diagrams, my sister, Miss P. Kraay, and Mrs. M. Cox of the Ashmolean Museum. Finally I must express my gratitude to the American Numismatic Society for undertaking the publication of this monograph.

OXFORD 1954

COLIN M. KRAAY

ABBREVIATIONS

ANS	— American Numismatic Society, New York.
Bachofen von Echt	— Voetter, <i>Sammlung Bachofen von Echt: Römische Münzen und Medaillen. Katalog</i> , Vienna 1903.
Basel	— Historisches Museum.
BM	— British Museum.
BMC	— <i>Coins of the Roman Empire in the British Museum</i> .
BMC (Rep.)	— <i>Coins of the Roman Republic in the British Museum</i> .
Bonn	— Rheinisches Landesmuseum.
CAH	— <i>Cambridge Ancient History</i> .
Capt. Smyth	— Capt. W. H. Smyth, <i>Descriptive Catalogue of a Cabinet of Roman Imperial Large Brass Medals</i> , Bedford (1834).
Fitzwilliam	— Christie Sale, 30 May 1949.
Hall	— Glendining Sale, 16 Nov. 1950.
ILS	— Dessau, <i>Inscriptiones Latinae Selectae</i> .
Lawrence	— Glendining Sale, 17 Jan. 1951.
Magnaguti II	— <i>Ex Nummis Historia</i> II, Rome 1949 (pub. Santamaria).
MAH	— <i>Mélanges d'archéologie et d'histoire de l'École française de Rome</i> .
Messenger	— Glendining Sale, 21 Nov. 1951.
Munich	— Staatliche Münzsammlung.
Naville I–XVIII	— Lucerne sale catalogues (I–XI, Naville; XII–XVIII, <i>Ars Classica</i>).
NC	— <i>Numismatic Chronicle</i> .
NdS	— <i>Notizie degli Scavi di Antichità</i> .

Oxford	— Heberden Coin Room, Ashmolean Museum.
Paris	— Bibliothèque Nationale.
Paris (Armand-Valton)	— Armand-Valton Collection in Bibliothèque Nationale; cf. <i>Rev. Num.</i> 1909ff.
<i>PW</i>	— Pauly-Wissowa, <i>Real-Encyclopädie der classischen Altertumswissenschaft</i> .
<i>RAI</i>	— Grant, <i>Roman Anniversary Issues: an Exploratory Study of the Numismatic and Medalllic Commemoration of Anniversary Years 49 B.C.-A.D. 375</i> (Cambridge: The University Press, 1950).
<i>RGDA</i>	— <i>Res Gestae Divi Augusti</i> (Gagé ed.).
<i>RIC</i>	— Mattingly and Sydenham, <i>Roman Imperial Coinage</i> .
<i>RM</i>	— <i>Mitteilungen des deutschen archäologischen Instituts, römische Abteilung</i> .
Ryan	— Glendining Sale, 2 April 1952.
Vienna	— Bundessammlung von Medaillen, Münzen und Geldzeichen.
Zürich	— Schweizerisches Landesmuseum.

I

INTRODUCTION

The last hundred years have seen great changes in the methods of classifying Roman coins. The comprehensive but uncritical alphabetical accumulation of Cohen has been superseded by *Coins of the Roman Empire in the British Museum* and *Roman Imperial Coinage*, in both of which the material is arranged on the basis of the chronological sequence of issues. Informative as is such a classification compared with its alphabetical predecessor, it still leaves room for the extraction of further evidence from selected issues. Since the mint was a government department and since the content of the coins, controlled by directives emanating from a high level in the imperial service, was regularly used to disseminate ideas in the interests of the government, the most thorough analysis possible of certain issues may sometimes be required.

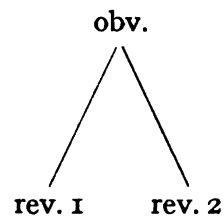
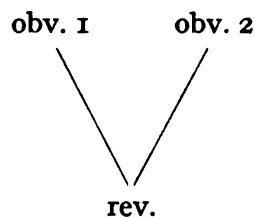
Before an issue of coins can be fully interpreted, information under the following heads is, if possible, needed: a) the date of issue, b) the place of issue, c) the area of circulation, d) the size of the issue, e) the reverse types in the light of their previous and subsequent history.

a) The date of issue is often given by the legends of the coin itself, particularly when consulships are frequent (as in the Flavian period), or when tribunician dates are commonly included (as in the late second and early third centuries). In the absence of such precise and obvious dating, analogies with dated coins or the position of a coin in a die-linked series may provide an answer. The determination of date relates an issue to a body of known historical circumstances which must form the background of any interpretation.

b) To determine the place of issue is more difficult, for although in the early Empire much of the coinage can be securely attributed to the central mint of Rome, from time to time there appear smaller groups, eccentric in type or style, which suggest the activity of sub-

sidiary mints. In the rare event of a number of provenances being known, some general clue to area may be obtained; reverse types too may sometimes give a hint,¹ as well as literary or epigraphic sources.² Yet often there is little more than such hints and clues, and the confident placing of mints in this city or that implies a greater degree of certainty than really exists. Therefore the coins themselves must be compelled to yield all possible evidence. What can be done, and what has rarely hitherto been done in the field of Roman coinage, is to delimit the blocks of coinage which are available to be attributed to this or that mint or subdivision of a mint. Such blocks cannot be accurately determined by a judgment of style alone; for while coins of similar style may reasonably be the work of the same establishment, it does not follow that coins of different styles were issued from different mints. Such a view would not allow for the vagaries of short-lived mints with no traditional style, and the erratic work of semi-skilled or imported craftsmen, perhaps working at high speed to meet special demands.

The only sure method of determining the physical interrelations of coins at the time of issue is the study of die-links. It is laborious, for when applied to large issues, it involves the accumulation of much material, though a few specimens may yield an answer to a particular question;³ yet its evidence is conclusive, for, in the vast majority of cases, it is certain that two coins showing either of the two following die relationships were issued from the same mint.



¹ Cf. below p. 29 for the special applicability of Galba's R XL types to Gaul.

² The presence of a mint for gold and silver at Lugdunum under Tiberius is attested by Strabo IV, 3, 2, and its later existence by inscriptions (*CIL* XIII, 1499; cf. Tac., *Ann.* III, 41; *Hist.* I, 64; *CIL* XIII pp. 250ff.).

³ E.g. the reverse die shared by three sestertii of Tiberius with different obverse types (*BMC* I, nos. 70, 75, 77) is a factor to be remembered in connexion with the widely spaced dates suggested for these types on other grounds by Grant, *RAI*, pp. 33, 35 and 65f.

It is of course no valid objection to say that dies could have been made in one central workshop and thence distributed to provincial mints, for the coins issued by each mint would still exhibit no dies common to the issues of other mints. The only means of confusing the picture derived from die-links is the improbable assumption—for which there is no evidence—that dies could be used for a time in one place and then be dispatched to another to finish their working life.

Once these groups of die-linked coins have been determined, other evidence may serve to place them geographically. In the absence, however, of a system of mint signatures such as existed in the third and fourth centuries A.D., it is unlikely that anything short of such specific literary and epigraphic evidence as exists for Lugdunum will pin-point a mint to this or that city. Yet such precise localization is rarely necessary, and a more general indication of area will usually suffice.

c) The question of the area of circulation is complementary to that of the place of minting. It must be posed separately because, whereas gold and silver moved freely from end to end of the Empire, the movement of base metal coinage was much more restricted, and the possibilities therefore arise that certain types were intended for certain areas, or that subsidiary mints issued types suitable for these areas.⁴ Information of this sort can be derived only from coin finds.

d) Some means of determining the relative quantities in which types were produced is necessary in order to assess their relative importance. A general knowledge of a series is sufficient to give some idea of the frequency with which different types are encountered, but does not allow any very accurate grading. Moreover a number of extraneous factors may seriously distort the picture. For example, dealers' "rarities" may cause what was once a common coin to be classed as scarce, because features of its type or legend make it popular with collectors;⁵ or an excessively rare coin will appear com-

⁴ Cf. the very restricted list of reverse types used at Lugdunum under Vespasian in A.D. 71 with the far greater range of the mint of Rome.

⁵ An outstanding example is provided by the **IVDAEA CAPTA** types of Vespasian, which the number of dies used shows to have been among his commonest types, but which, owing to their popularity with collectors, have come to be classed as "rare" or "scarce" (cf. *RIC* II, p. 68).

moner than it is because every major collection will contain a specimen, though all may come from a single die. The reasonable practice of collectors of accumulating a representative series of types does succeed in equalizing (to the confusion of the student) the representation of the rare coin and the common, so that it sometimes happens that the student finds an embarrassing number of identical specimens of the rare types, but cannot amass sufficient material to give him all the dies of the common types.

There are two methods of overcoming these difficulties. The first, and by far the easiest, is the analysis of hoards. A recent study of 17th and 18th century hoards in Sweden has shown that the distribution of coins within a hoard year by year remains in a constant relation to the total number of coins issued in each year.⁶ Disturbing factors, such as the economic position of the person accumulating the hoard, can be eliminated by a comparison of several such hoards: in this way the relative commonness of issues can be determined. During the early empire, however, hoards of the necessary size tend to be confined to the precious metals. For the base metals the more lengthy procedure of counting dies provides an alternative. It is not necessary, for the purpose of determining the size of an issue, to attempt to collect all dies, but only sufficient to show the relative numbers used for each type. The value and practicability of such a method will be demonstrated later; its detailed application naturally provides much information on a number of subsidiary questions, such as the significance of minor alterations of type or legend, and the physical organisation of the mint itself.

e) That the previous and subsequent history of a type is of vital importance in arriving at its interpretation at a particular moment has been clearly demonstrated by Professor Grant for at least one important group, the anniversary issues.⁷ Yet it is easy to see that this applies likewise to the whole field of coinage. A coin in a case or tray is thought of as an isolated object, yet the period of its circulation was often long, and the type it carried constituted an element in the numismatic experience of several generations; its repetition might call to mind associations connected with its original issue still

⁶ Thordeman, "The Lohe Hoard," *NC*, ser. 6, VIII (1948), pp. 188 ff.

⁷ *RAI* particularly Chapter VIII.

in circulation. For example, the types of Clodius Macer followed closely the types of Antony's legionary coins, issued about a hundred years earlier.⁸ This is not the place to discuss the motives behind Macer's revival; it is relevant only to point out that coin finds from Pompei show that large numbers of Antony's coins were still circulating in A.D. 79, and that Macer was therefore copying common currency.⁹

The following chapters are an attempt to extract information of the sort outlined in the preceding paragraphs from the *aes* coinage of Galba. For several reasons attention will be concentrated mainly on the issues of sestertii. These are more easily assembled than the smaller denominations; their large dies enable identities to be observed more readily, and the smaller denominations in this period usually follow the larger very closely in both style and content. Lastly, in a period which lacked true medallions, the size of the sestertius fitted it for a comparable function, and it numbers among its reverse types some which in interest and elaboration surpass anything on other denominations.¹⁰

The validity of the results obtained will depend on the assumption that the coins available today are a representative sample of the total originally struck. Experience of Greek coinage might suggest that this would be a misleading assumption, for it is well known that all surviving specimens of certain Greek issues are derived from a single find, whereas other issues, known from the number of dies used to have been originally much larger, are now far more rare. The study of Roman imperial *aes*, however, is much less subject to such hazards for several reasons. There is far less inducement to melt down and re-strike copper or bronze than gold or silver; the imperial issues of *aes* were far larger than those of Greek cities and the time for which they have had to survive is appreciably shorter; finally hoards of *aes* of the early empire are uncommon and the majority of surviving specimens are sporadic site-finds. These reasons justify the claim that

⁸ On this see *RAI*, p. 86 f. and Kraay, "The Coinage of Vindex and Galba, A.D. 68, and the Continuity of the Augustan Principate," *NC*, ser. 6, IX (1949), pp. 133 ff.

⁹ *NdS* 1901, p. 437 and 1910, p. 412 record typical Pompeian hoards containing a substantial proportion of Antony's legionary denarii.

¹⁰ Cf. particularly the elaborate sestertius types of group G, below Chapter III.

different types were originally issued in the approximate relative proportions in which they survive today.

The *aes* coinage of Galba is well suited for study by the methods already outlined. It comes at a time when the *aes* coinage, after a period of slow development under the earlier Julio-Claudians, had at last attained maturity under Nero. The mint was capable of striking large and varied issues; the principle, and indeed the necessity, of some decentralization of production to meet the requirements of distribution had been recognized; engravers were able to create vivid portraits and reverse types of great complexity in which the elements of legend and type were skillfully blended. Though the coinage of Galba must necessarily be studied at present in a sort of vacuum, since the coinage of Nero, out of which it grew, has not yet been subjected to detailed analysis, there are compensating advantages. Organization and artistic skill were inherited from the past, but the use to which they were put in the year of the four emperors was inevitably altered, reflecting the reaction against everything Neronian which the accession of Galba represented. Moreover, the shortness of Galba's reign and the variety of his coinage are welcome features, for the one reduces to the minimum the possibility of chronological error, while the other provides the basis of classification. In short, there was available to Galba an organisation which had only recently reached full development, but which the coinage of the reign of Nero had proved to be equal to meeting any demands that might be made upon it.

II

THE MAIN *AES* ISSUES

The brief reign of Galba, lasting only seven months, witnessed the production of a great and varied *aes* coinage, culminating in an issue of quite remarkable quality and originality; a glance at the lists of obverse legends and bust varieties preceding the Catalogue of Dies (p. 61f.) will reveal the extent of its variety. Particularly surprising, at first sight, is the use of no less than twenty-six forms of obverse legend in so short a period; of these some may be due to the whim of the engraver (SVLP or SVLPIC) while others may represent successive stages in the development of the title (like the inclusion of *pontifex maximus*), but there remain a number of basic variations of order and form which run counter to the idea that the imperial titulature was something formal and static, to be altered only upon the receipt of some new office or honour. This multiplication of varieties within so short a period has proved so embarrassing that some of them have been regarded as posthumous honorific issues; these form the subject of Chapter III.

Previous research, in addition to the valuable work of assembling the material, has reached certain tentative conclusions. One section of the coinage, separable on grounds of style, has been thought to be of Gallic origin,¹ a conclusion which will receive partial confirmation. Likewise, the valuable suggestion "that minor varieties were very possibly used to distinguish the work of different *officinae*"² will be found to be substantially true. On the other hand, attempts to arrange obverse legends in a chronological order of succession³ are doomed to failure because several varieties were in use simultaneously.

¹ *BMC I*, p. ccii; cf. Mattingly, "The Coinage of the Civil Wars of 68–69 A.D.," *NC*, ser. 4, XIV (1914), p. 127f. Coins of this class are marked "Gallic" in the notes of *BMC I*.

² *BMC I*, p. ccv.

³ As e.g. *ibid.*, p. cciii and *NC*, ser. 4, XIV (1914), p. 128 — both unsupported by argument.

This field is a promising one for exploration by die-analysis, a technique familiar and indispensable in Greek coinage, but which has never yet been applied to the systematic analysis of a large body of Roman coins.⁴ In such a study the variety of the obverses is an advantage and an aid to classification, for, as will be seen, die groups in the main include coins with common features; moreover, the fact that output was heavy over a short period implies that production was virtually uninterrupted and that disturbing factors, such as the suspension of coining or the re-use, after an interval, of discarded dies, were reduced to a minimum. For the most part analysis has been confined to sestertii; the size of these makes the recognition of die identities easier than in the smaller denominations, and the dies for these latter were evidently produced by the same artists.⁵ Groups of dupondii and asses are analysed only when their variety or type-content makes this specially rewarding.

Chronological Framework.

Before the coinage itself can be analyzed, a chronological framework for the reign must be established. Cassius Dio gives its length as 9 months and 13 days,⁶ which, working back from Galba's death on 15th January A.D. 69, gives 2nd April A.D. 68 for his accession. This date, well before Nero's death on 9th June, is usually held to be that of Galba's salutation as emperor at Carthago Nova. All our authorities agree that on this occasion he refused the titles Caesar and Augustus, and declared himself the *legatus* of the Senate and People of Rome.⁷ About 18th June the news of the death of Nero and of Galba's own election by the Senate was confirmed,⁸ whereupon, according to Suetonius, he abandoned the title *legatus* in favour of that

⁴ In more restricted series it has already proved its value, e.g. Sutherland, "Divus Augustus Pater," *NC*, ser. 6, I (1941), p. 97.

⁵ It is often possible to match exactly portraits of Æ I and Æ 2; cf. A 118 (PLATE XXIX) with A xiv (PLATE XXX) and A 125 (pl. XXXI) with Aii (PLATE XXXIII). The range of reverse types may vary considerably with different denominations, but, when the type is the same, the conventions of representation are usually also the same.

⁶ lxiv, 6.

⁷ Suet., *Galba*, X; Plut., *Galba*, 5,2; cf. Cassius Dio, lxiii, 29, 6.

⁸ Plut., *Galba*, 7.

of Caesar and immediately hastened on to Rome to suppress disaffection.⁹

The date of the assumption of the title Caesar is of some importance, because a considerable body of coins omits this title from the obverse legend. The account of Suetonius is highly abbreviated, for he has no hint of the *tardum Galbae iter* of which Tacitus speaks,¹⁰ nor of the need to urge Galba to hasten to Rome, as in Plutarch.¹¹ Moreover, he is not in agreement with Dio who asserts that it was not until Galba's meeting with the deputation of the Senate at Narbo—an event also omitted by Suetonius—that he adopted the title Caesar, and adds that he had not hitherto styled himself emperor in any communication.¹² The account of Dio is confirmed by the "horseman" issues of aurei and denarii in Spain and Gaul (obverse (SER) GALBA IMP)¹³ and a small issue of denarii at Rome (obverse IMP GALBA)¹⁴ and by half the output of *officina* D (which omits Caesar).¹⁵ The meeting at Narbo seems to have been crucial in the development of Galba's titulature; its date is not known exactly, but as the delegates are not likely to have set out before news of Galba's intentions and proposed route reached Rome, it can hardly have been earlier than late July. If the Senate waited until they realized that Galba's progress was going to be *tardum*, it may have been very much later. Those issues, then, which omit the title Caesar must be dated before the meeting at Narbo, and, as will appear below, are the first *aes* issued from Rome. The titulature of Vitellius developed in a similar way; his earliest issues too omit the title Augustus, while Caesar never appears on his coins, though he is said to have adopted the name in his last days.¹⁶

The date of Galba's arrival in Rome is uncertain, but it is important because it fixes a *terminus post quem* for the next change in titulature, the inclusion of P(*ontifex*) M(*aximus*) which a military

⁹ Suet., *Galba*, XI.

¹⁰ *Hist.* I, 6.

¹¹ Plut., *Galba*, 11, 1.

¹² *lxiii*, 29, 6; cf. Plut., *Galba*, XI.

¹³ *RIC* I, p. 207 (emending the date to A.D. 68) and 210 (only no. 112 has AVG).

¹⁴ *Ibid.*, *Galba* 20 and 26.

¹⁵ see p. 23 below.

¹⁶ Tac., *Hist.* I, 62; III, 58.

diploma proves to have taken place by 22nd December.¹⁷ Comparable instances show that candidates were not elected *in absentia*; for example, both Vitellius and Vespasian waited until they were present in Rome in person, and even when the candidates were present throughout, the office was usually conferred independently of, and later than, the other imperial titles.¹⁸ October may be suggested as the month of Galba's arrival in Rome, and perhaps early December for his election as *pontifex maximus*.¹⁹

On the basis of the preceding paragraphs the following chronological scheme for Galba's reign can be constructed.

A.D. 68	
2 April	Galba hailed emperor; declares himself <i>legatus SPQR</i> .
18 June	News of Nero's death confirmed; start of issues omitting CAES and AVG in Spain and Gaul. (At Rome the starting date will be 9 June, the death of Nero).
? July	Galba in Gaul; title Augustus accepted, appearing first on "horseman" issues in Gaul, and soon after at Rome.
July (or later).	Meeting at Narbo and acceptance of title Caesar.
October	Arrival in Rome.
Before	
22 December	Election as <i>pontifex maximus</i> .
A.D. 69	
15 January	Murder of Galba.

For the issue of all coinage in Galba's name seven months is the longest period available; into a still shorter time must be fitted the issue of *aes*, for there is no *aes* to match the early gold and silver, which omits both the titles Caesar and Augustus. Furthermore, soon after the election of Galba as *pontifex maximus* — which took place

¹⁷ *ILS*, 1988.

¹⁸ Mommsen, *Römisches Staatsrecht* (1887) II, pt. 2, pp. 1106 ff.

¹⁹ The election could have followed closely upon the entry, or even have been simultaneous with it, except that the comparative rarity of dies including this office in the titulature suggests a date later in the reign (see p. 48). *ILS*, 238, dedicated 15 Oct. 68, gives the title **SER GALBAE IMP AVG** (without **PM**) but this is not an official inscription, and cannot, therefore, be given much weight in matters of titulature, though it may well be correct in omitting **PM** at this time.

before 22nd December—the main *aes* issues came to an end, and were superseded by a new shortlived issue of an entirely different character,²⁰ so that little more than five months (July–December?) can be allowed for the prolific main series.

Analysis of *Officinae* A to E.

The main *aes* issues are analysed in the following pages, and two further groups, previously labelled “posthumous,” are reserved for consideration in Chapter III. Since this analysis, based on an examination of over 550 coins, is somewhat detailed, the task of following it may be rendered easier if the main conclusions are stated briefly now. The whole material falls into seven virtually self-contained die-linked sequences which represent the output of as many mints or *officinae* (labelled A to G). Each sequence is described in turn in the text, with the aid, where possible, of a diagram, in order to bring out clearly the basic facts upon which the reconstruction of mint history, with which the chapter ends, must rest; comment and detail have therefore been reduced to the minimum consistent with this purpose. Fuller details can be extracted from the Catalogue of Dies and the Plates. All figures record merely the number of dies observed, and can carry no presumption about the total originally engraved; the relative proportions of the numbers, one to another, can, however, be regarded as significant, since the whole body of material examined, judged by the consistent results which study of it has produced, is large enough to be a fair sample of the total original output of Galba’s mints.

Finally a word of explanation is required upon the structure and validity of the diagrams of die-links. In their first stage these diagrams represent a method of jotting down in graphic form die-links as they are observed, a process of haphazard accretion which naturally produces a confused and shapeless mass of crossing lines. On what principles are these diagrams to be reduced to order, so that they yield additional information on the working of the mint, or, a still more fundamental question, were the dies themselves used in a logical order?

²⁰ See Chapter III.

The most extreme hypothesis, which would preclude the recovery of any order, because no order originally existed, would be that an *officina* started work equipped with all the dies it was ever to use, and employed these quite haphazardly. This can be ruled out on grounds of sheer improbability; a basic assumption therefore emerges that dies were used successively to replace earlier specimens worn out or broken. In Greek coinage the order of dies can be determined mainly by the ever increasing amount of wear which reveals itself in spreading flaws and the growing obliteration of the finer details. This aid is not available in Roman coinage, either because technical progress had increased the life of dies, or because dies were discarded as soon as they showed signs of wear. In most of Galba's *officinae*, however, one end of the series can be fixed by means of certain peculiarities of legend, of which the most important is the inclusion of *pontifex maximus* (the chronological importance of this is discussed on p. 48 below). Certain obverse dies can thus be fixed as late; the next row back will consist of those obverses without *pontifex maximus* which share a reverse die with the *pontifex maximus* obverses. Hereafter the arrangement must be in some degree subjective, because the plotting of the diagram can be varied from one to the other of two extremes. A diagram could be telescoped so that all obverse dies omitting *pontifex maximus* were regarded as contemporary and placed on one horizontal line; this would virtually be the *reductio ad absurdum* with which this paragraph commenced, and would involve much extremely complicated die-linking on the one level. The other extreme yields the maximum vertical extension, which is limited by the fact that one reverse die is often coupled with several obverses.

In the final plotting of the diagrams a mean has been chosen which gives a reasonable degree of linking both horizontally and vertically. While it is impossible to confirm the layout in all its details, the consistently reasonable results produced make it certain that the general picture is correct. One or two examples will illustrate this, and others will be noted in the following sections devoted to individual *officinae*. In *officina* D two obverse legends are employed, one of which, omitting CAES ("I" on Diagram 4), must be earlier than the other which includes CAES ("S" on Diagram 4); the obverse dies readily arrange themselves in three main groups, the top row including only dies

which omit **CAES**, then a mixed row, and last a row consisting only of dies which include **CAES**. This logical sequence can be upset only by postulating—wholly unnecessarily—an entirely capricious and erratic use of dies. Another example is provided by the interrelation of *officinae* A and D (Diagrams 1 and 4). A number of reverse dies of D are used also in A; these dies appear late in the D sequence (combined with obverse dies which include **CAES**) and early in the A sequence (far removed from the *pontifex maximus* dies). Since A continued working longer than D (which has no *pontifex maximus* dies), there emerges the reasonable picture of D closing down and making some of its still usable equipment available to the newly opened A. Such results as these go far towards confirming the general correctness of the Diagrams.

OFFICINA A

(Diagram 1: PLATES I–V)

Contents

Obverse dies: 26

Reverse dies: 44

Die sequence: Nearly all dies link into one main sequence.

Obverse Legends

(1) SER GALBA IMP CAES AVG TR P (24 dies)

(2) SER GALBA IMP CAES AVG P M TR P (2 dies)

Portraiture (PLATES I–III)

Consistency in style is far greater than in any other group. The heads, which always face right, are big and fleshy, with thick necks, and a narrow projecting point to the bust.²¹ The laurel wreath is always present, with wreath ties usually in the distinctive form of tongs and a prominent leaf in the knot.²² A globe at the point of the bust occurs only on A 27,²³ whilst drapery is to be seen on A 29 and 134. Two engravers are probably at work on the obverses of this *officina*, since nearly all heads can be classed as “large” or “small.” “Large” heads include A 15, 16, 26, 27, 28, 29, 30, 35, and “small” heads A 17, 18, 31, 57, 67, 73, 79, 85. The layout of dies in Diagram 1 shows that these two sizes

²¹ For a portrait of this type in sculpture see Bellido, *Sculpturas Romanas de España y Portugal*, pl. XIX.

²² This leaf is found also on the gold and silver of Vitellius and Vespasian attributed to the mint of Lugdunum, see *BMC* I, pl. 62, 1 and II, pl. 13, 3.

²³ Not “frequently” as *NC*, ser. 4, XIV (1914), p. 127 and *BMC* I, p. ccv.

cannot be successive stages in the work of one man or the result of successive mint directives, since both run parallel through the output of this *officina*.²⁴

Reverse types (PLATES III-V)

	Description	No. of dies	Notes
1. (a)	AVGVSTA Livia seated l.	1	Elsewhere only <i>off.</i> B.
(b)	AVGVSTA R XL Livia seated l.	1	Only here.
2.	EX SC OB CIVES SER in wreath	5	Only here, but see C II for form with SERVATOS.
3. (a)	LIBERT AVG Libertas stg.	6	Only here; elsewhere always LIBERTAS PVBLICA and in full.
(b)	LIBERT AVG R XL Libertas stg.	1	Only here.
(c)	LIBERTAS AVGVSTA Libertas stg.	3	Only here.
(d)	LIBERTAS AVGVST R XL Libertas stg.	1	Only here.
4.	PAX AVG(VST) seated l.	2	Only here.
5. (a)	ROMA stg. holding Pax and <i>aquila</i>	1	Only here.
(b)	ROMA R XL as in (a)	1	Only here.
(c)	ROMA (in ex.) R XL stg. holding Victory and <i>aquila</i>	1	Only here.
6.	ROMA (in ex.) seated on elaborate arms	1	Only here.
7.	ROMA (in ex.) seated on arms, resting l. arm on shield	6	This type is chiefly found in <i>off.</i> D and occasionally in E. Three dies (P 64, 66, 118) are common to A and D.
8.	ROMA stg. holding Victory and spear, with vertical legend	1	An anticipation of the common type of Vespasian of A.D. 71. B, C, and E always have RO/MA with this type.
9.	SPQR OB CIV SER in wreath	5	Like No. 7 above, characteristic of <i>off.</i> D, with which there are three dies in common (P 74, 84, 130).
10.	Victory carrying wreath r.	2	Also in <i>off.</i> B, C, D, E.
11.	Victory carrying Palladium l.	6	Also in <i>off.</i> B and D.

²⁴ For example on Diagram I, in the third row down, A 28 and 26 have "large" heads and A 31, 134 have "small," the four forming a closely linked group.

The distinctive character of this *officina* is shown as much by its portraiture, easily recognizable as quite different from that of any other *officina*, as by its range of reverse types, few of which are used elsewhere. Among these the presence of the formula **R XL** is particularly remarkable,²⁵ for otherwise all reference to the remission of the *quadragesima Galliarum* is confined to coins of undoubtedly non-Roman origin. This fact must have an important bearing on any final assessment of this group.²⁶

In direct contrast, however, to the "isolationist" character of A are the links of both die and idiom between A and other *officinae*. The most important link is with D, for the two types, **ROMA** seated and **SPQR OB CIV SER** in wreath, each have three dies common to both *officinae*. These two types form the main output of D and it is to this *officina* that they primarily belong. Diagrams 1 and 4 yield some evidence on how this transference of dies took place. The reverse dies common to both are (with one exception A 36-P 74) all linked to obverse dies of D which include **CAES** in their legends (the later phase of D); in A, on the other hand, their appearance is early, for all are well removed from the two PM dies with which the output of this *officina* ends. The absence of PM dies from D argues that it closed earlier than did A; therefore, there seems to be little doubt that when D closed, some of its usable equipment was transferred to A, then newly opened.

With *officina* B the link is not a die but the work of a single engraver common to both. Among the reverse dies of *officina* B, P 28 (**CONCORD AVG—PLATE VIII**) is outstanding for its breadth and elegance; at the same time it differs from most other dies of this type in B in showing a short sceptre instead of a long one, in the heavily and regularly fluted folds of the chiton behind the left heel of the deity, and in the elaboration of the legs of the throne. These features reappear on two dies of *officina* A, P 23 and 80 (**PAX AVG [VST]—PLATE IV**): the same spaciousness, the short sceptre, the fluted folds, and, on P 80, the legs of the throne similarly worked; moreover, the strongly marked triangle between thigh and calf is closely similar in

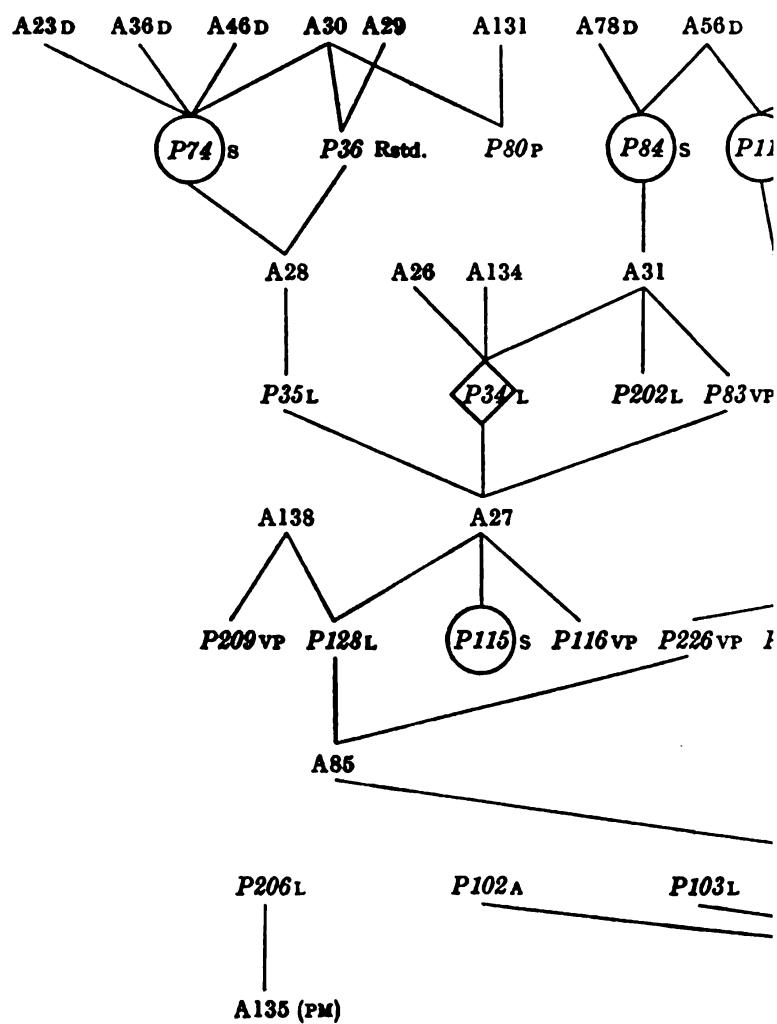
²⁵ **R XL** seems never to have been added to an existing die, but always incorporated in a new one.

²⁶ See below p. 29.

P 23 and 28. The conclusion is that a single engraver was at some stage producing dies for both A and B; the diagrams of die links show that all these dies could be early in their respective *officinae* and this suggests further (a) that A and B started striking in the same place, and (b) that they probably started about the same time.

The Libertas type provides evidence of an exchange of idiom between A and C. The Libertas type of *officina* A normally differs from that of the other *officinae* in two respects: (1) in the use of the adjective **AVG(VSTA)** instead of **PVBLICA**, and (2) in the draping of the himation which passes under the left armpit and over the right shoulder, thus enclosing the whole body except left breast and shoulder, instead of being loosely draped in a low fold across the stomach with the end hanging free over the left arm; in A both legend and dress follow closely the model of the Claudian asses. There are, however, two hybrid dies; in A, P 70 (PLATE IV) has the **AVGVSTA** legend typical of A, while the drapery of Libertas is that normally found in B, C, and E. Conversely in C, P 45 (PLATE XVI) has the dress of A, but preserves the adjective **PVBLICA** normal in C. In A, P 70 is early; in C, P 45 is late, since it is linked with an obverse die which includes PM in its legend.

The main features of *officina* A can now be summarized. It began work when D closed, and took over many of the dies which D had been using, for, in addition to the six dies common to A and D, there are other dies of D type which, as yet, have been found combined with A obverses only (see Diagram 1). In this earliest phase two further influences from the other *officinae* have been observed, the two Pax dies and the drapery in one of the Libertas dies: in fact in Diagram I nearly all the reverses of the first row show external influences. Yet even in this earliest stage many of the peculiarities of A are already present, the distinctive portraiture of the obverses, the legends **LIBERT AVG** (P 70, 114) and **EX SC OB CIVES SER** (P 71) and the elaborate **ROMA** types (P 24, 36). In the later stages come the **R XL** dies and the decline of external influences, until, in the eight reverse dies combined with the two PM obverses, there is only one die (P 102—**AVGVSTA**) which could possibly belong to any other *officina*.



DL

OFFICINA B

(Diagram 2: PLATES VI-X)

Obverse dies: 19

Reverse dies: 30

Die sequences: One large sequence comprises the majority of dies; two unlinked dies are included on the ground of the similar form of obverse legend.

Obverse legends

- (1) **IMP SER GALBA CAE AVG TR P** (4 dies)
 The abbreviation **CAE** is found only here and on one die of *officina* G, (A 120).
 (2) **IMP SER GALBA CAES AVG TR P** (6 dies)
 (3) **IMP SER GALBA CAESAR AVG TR P** (4 dies)
 (4) **IMP SER GALBA CAES(AR) AVG P(ON) M TR P** (5 dies)

Portraiture (PLATES VI-VII)

There is much variety, though the head nearly always faces right (except A 22 and 62). The wreath is always present, though on three examples (A 2, 22, 76) it is certainly an oak wreath instead of laurel. Draped busts are less frequent than undraped. Varieties of busts and obverse legends are distributed as follows.

OBV. LEGEND. NO.	HEAD R.	HEAD L.	HEAD R., BUST DR.
1	1	2	1
2	4	—	2
3	2	—	2
4	4	—	1

Reverse types (PLATES VII-X)

Description	No. of dies	Notes
1. AVGVSTA Livia seated l.	4	Otherwise only one die in <i>off.</i> A.
2. CONCORD AVG S/C. Concordia seated l.	10	Only here with S C l. and r. field; the same type but with S C in ex. is confined to <i>off.</i> C II.
3. LIBERTAS PVBLICA stg.	6	Also in <i>off.</i> C, D and E.
4. RO/MA stg.	3	Also in <i>off.</i> C I and E (1 die only).
5. Victory carrying wreath r.	4	Also in <i>off.</i> A, C, D and E.
6. Victory carrying Palladium l.	3	Also in <i>off.</i> A and D.

2 Kraay

The reverses of this *officina* have few individual features, for all types are shared to some degree with other *officinae*, while the range of types is closely similar to that of *officina* C; both lay emphasis on Concordia, Libertas, Roma and Victory. Augusta is the nearest this *officina* has to a type of its own. Most interesting are the variations between the **CONCORD** dies of B and C. In B the **SC** is invariably placed in the left and right fields; the branch nearly always splits **CONCORD** in two (except P 4), and Concordia herself is comfortably relaxed upon a chair of which the back is structurally integrated with its legs. In C the execution is inferior, for Concordia sits stiffly upright upon a chair the structure of which is curiously and consistently misunderstood. Its back is shifted inwards towards the centre, and no longer has any relation to its legs; over it the drapery falls diagonally in defiance of the law of gravity. The word **CONCORD** is never split by the branch, and **SC** is always here placed in the exergue. This type of variation is important because it reinforces the evidence of the die sequences, and proves that these sequences exist in their own right and are not due merely to fortuitous gaps in the evidence.

OFFICINA C

(Diagram 3: PLATES X-XVII)

This *officina* is distinguished by an obverse legend starting **SER GALBA** and using **CAESAR** in full. Moreover, for reasons which will be stated below, its output can be divided into two groups which are accordingly treated separately as C I and C II.

Contents

Obverse dies: C I 19
 C II 19
 Reverse dies: C I 26
 C II 25

Die sequences: The main sequence is provided by C II which includes most of the obverse dies of this type. C I is far less closely linked but has one substantial group as a nucleus. Between C I and C II there is one die-link, though not between the main groups: P 27 (**SPQR/O-B/CIVSER**), a typical die of C I (as opposed to **CIVES SERVATOS** in C II), is found combined both with A 94, a draped bust typical of C I, and with A 21, a left-facing bust belonging to the main sequence of C II.

Three reverse dies of C I (P 32, 38, 205) are also combined with obverses of *officina* E. This is of some interest because the draped busts of C I (which are absent from C II) are very similar to some of the busts of E (compare e.g. A 25 and A 51 on PLATE X with A 19 on PLATE XXV and A 151 on PLATE XXVII). This suggests that at the time of the break which seems to exist between C I and C II (see below) an engraver of obverse dies together with a few reverse dies from C I were transferred to *officina* E.

For convenience the dies attributed to C I and C II are listed here.

Obverses

C I: A 24, 25, 34, 44, 51, 52, 53, 66, 69, 70, 83, 91, 92, 93, 94, 95, 96, 133, 148 (PLATES X–XI).

C II: A 5, 11, 12, 21, 32, 37, 38, 58, 59, 60, 61, 71, 72, 84, 97, 98, 99, 130, 149 (PLATES XIII–XV).

Reverses

C I: P 3, 27, 32, 33, 38, 59, 60, 61, 62, 63, 87, 90, 91, 125, 135, 136, 137, 138, 139, 140, 197, 205, 211, 222, 224, 225 (PLATES XI–XIII).

C II: P 6, 7, 8, 15, 26, 37, 45, 76, 81, 82, 88, 100, 109, 110, 126, 127, 143, 144, 145, 146, 147, 148, 149, 212, 223 (PLATES XV–XVII).

Obverse legends

(1) (C I and C II) SER GALBA IMP CAESAR AVG TR P (31)

(2) (C II only) SER GALBA IMP CAESAR AVG P M (or PO MA or PON MA or PONT MAX) TR P (7)

Portraiture

C I. All busts but one (A 66) face right, while draped and undraped dies are evenly divided. The drapery on most dies is of an unusual form, found only in this *officina* and occasionally in E; instead of hanging in a single loop across the neck, it is pinched up on either side into two folds, between which the drapery hangs in a loop. The wreath is always of laurel; the wreath ties often have a distinctive form in which the outer tie curls upwards, while the inner curves across the neck.

C II. In contrast to C I there are here no draped busts, and the heads are divided fairly evenly between left and right. The wreath is again always of laurel, and, though the wreath ties are sometimes of the form characteristic of C I, a number of other variations appear.²⁷

²⁷ For a false die of the type of C II, see PLATE XXXVI, A.

*²⁸

Reverse types

	Description	No. of dies	Notes
C I	(1) LIBERTAS PVBLICA	10	Also in <i>off.</i> B, C II, D and E.
	(2) RO/MA stg. 1.	5	Also in <i>off.</i> B and E (1 die). P 33 was used again by Vespasian. ²⁸
	(3) SALVS AVGVSTA seated l.	2	Also in <i>off.</i> C II. P 61 was used again by Vespasian. ²⁹
	(4) SPQR/O-B/CIVSER in wreath	6	Also in <i>off.</i> A and D, but C I dies are distinguished by spacing O-B . P 152 was used again by Vespasian. ³⁰ P 27 used also with A 21 (C II). P 205 used also with A 151 (E).
	(5) Victory carrying wreath l.	1	Elsewhere Victory always carries Palladium l. This die (P32) is used also with A 152 (E).
	(6) Victory carrying wreath r.	2	Also in <i>off.</i> A, C II, D and E. One die (P38) is used also with A 33 (E).
C II	(1) CONCORD AVG SC	8	Only here with S C in exergue. P 110 was used again by Vitellius. ³¹
	(2) EXSC/OB/CIVES/SERVATOS	1	Only here. The form EXSC/OB CIVES/SER is found in <i>off.</i> A.
	(3) LIBERTAS PVBLICA	6	Also in <i>off.</i> B, C I, D and E.
	(4) SALVS AVGVSTA	2	Also in <i>off.</i> C I.
	(5) SPQR/O-B/CIVES/SERVATOS in wreath	3	Only here with CIVES SERVATOS in full. Note spacing O-B derived from C I.
	(6) Victory carrying wreath r.	5	Also in <i>off.</i> A, C I, D and E.

The output of *officina* C has been subdivided into C I and C II despite the use of the same obverse legend (apart from the occasional addition of *pontifex maximus* in C II). This subdivision is supported by the following observed facts:

²⁸ E.g. *BMC* II, Vesp., no. 776.

²⁹ Glendinning Cat. 3/12/1929 (Nordheim), no. 110.

³⁰ Oxford.

³¹ *BMC* I, pl. 62, 14.

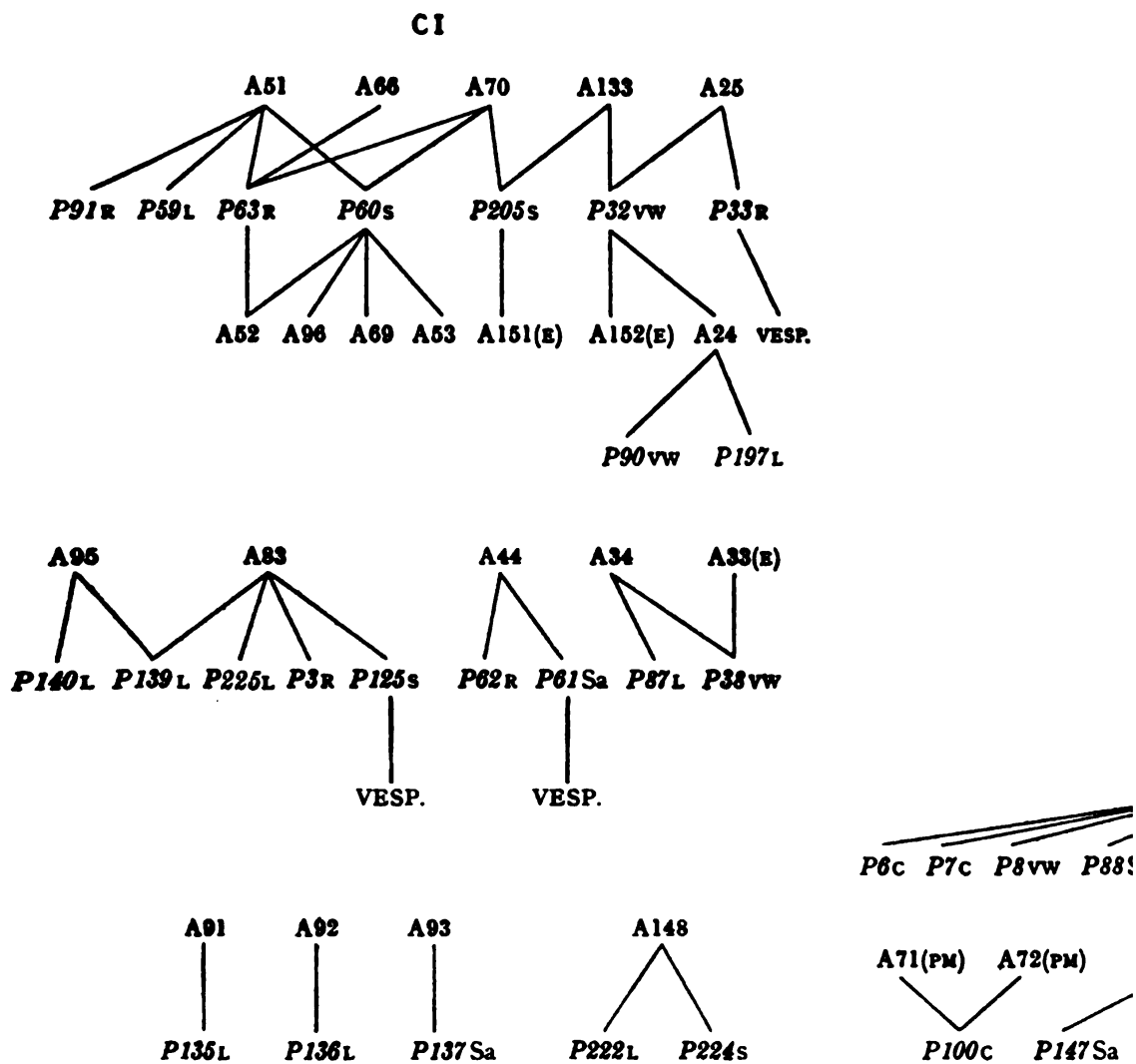


DIAGRAM 3. GALBA: DIE-LINKS IN C

1. The absence of complex die connexion. The only link has already been noticed above under "Die Sequences."

2. C I includes a number of draped busts, while C II has none. Moreover C I has one head only to the left, compared with nearly half in C II.

3. Although there are several reverse types common to C I and C II, there are also important divergences. C I alone uses **ROMA**, while **CONCORD AVG SC** is confined to C II, both types being well represented in their respective groups. Moreover **CIV SER**, the normal form in C I, is replaced by **CIVES SERVATOS** in C II.

4. Dies including *pontifex maximus* are confined to C II, which must therefore be the later of the two stages in the history of *officina C*.

5. Only three reverse dies of *officinae* A to F have been observed in use for Vespasian,³² and all three are dies of C I.³³

Officina C is thus seen to have had two stages. C I was mainly devoted to the two themes *libertas publica* and Roma: C II, however, while retaining *libertas*, discontinued Roma and substituted **CONCORD AVG** (with **S C** distinctively in the exergue) and Victory carrying wreath. This order of types contrasts with that of *officina B*, where the standing Roma is a late type, for out of the four obverse dies with which it is there combined, three have legends which include *pontifex maximus*. *Officina C* has several usages peculiar to itself, which have been noticed already, but only one type, **SALVS AVGVSTA**.

OFFICINA D

(Diagram 4: PLATES XVII-XXV)

Obverse dies: 34

Reverse dies: 67

Die sequences: The great majority of the dies form one large sequence; a few smaller sequences and unlinked coins are included on grounds of style, legend and reverse type.

³² See above notes 28-30. For reverse dies of *officina G* used by Vespasian, see below Chapter III pp. 52 ff.

³³ Is it possible that *officina C* alone was not situated on the Capitol, or that, if it was, it escaped the conflagration of December 69?

Obverse legends

- | | |
|---------------------------------|------|
| (1) IMP SER GALBA AVGVSTVS | (1) |
| (2) IMP SER GALBA AVG TR P | (14) |
| (3) SER GALBA IMP CAES AVG | (5) |
| (4) SER GALBA IMP CAES AVG TR P | (14) |

Portraiture (PLATES XVII-XX)

Varieties of busts and obverse legends are distributed as follows:

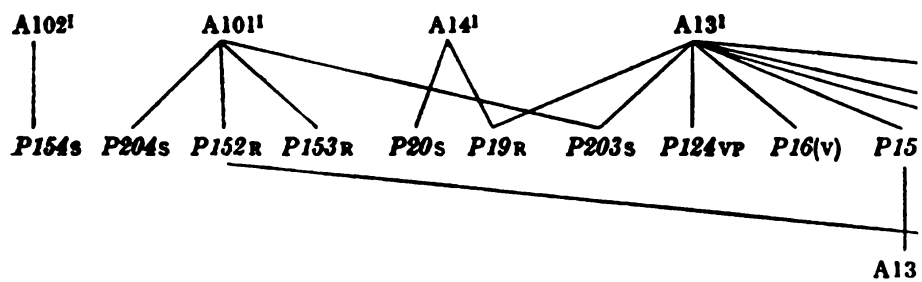
OBV. LEGEND NO.	HEAD R. LAUR. BUST DR.	HEAD R. LAUR.	HEAD R. BARE	HEAD R. BUST DR.	HEAD L. LAUR. BUST DR.	HEAD L. LAUR.
1	1	—	—	—	—	—
2	9	1	1	1	2	—
3	3	—	—	—	1	1
4	12	2	—	—	—	—

Though there is wide variation, individual varieties are thinly represented except "head right, laureate, bust draped," which claims the great majority of dies. Another feature of this group is that the wreath is often clearly differentiated as an oak-wreath; broadly speaking this accompanies legends beginning IMP, whereas the laurel accompanies those beginning SER. In other *officinae* the laurel is practically invariable, irrespective of legend.³⁴

Reverse types (PLATES XX-XXV)

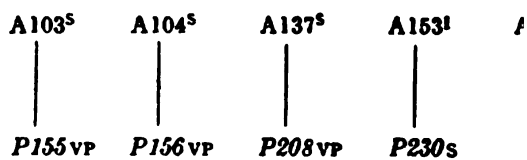
Description	No. of dies	Notes
(1) LIBERTAS PVBLICA	2	Both dies used with same obverse (A 50). Also in <i>off.</i> B, C, and E.
(2) LIBERT AVG	1	A die typical of <i>off.</i> A; this is the only example of an A reverse used with D obverse, though there are several instances of D reverses used with A obverses. But see note in Catalogue of Dies p. 98f.

³⁴ The only instances of the oak-wreath in other *officinae* are A 2, 22, 76 in B and A 114 in E; these dies may be the work of engravers of D; compare A 2 with A 45 (D) and A 114 with A 63 (D); see also note 40 below.



A13

P



- | | | |
|---|----|--|
| (3) ROMA seated l. on arms,
resting l. arm on shield | 21 | Mainly found here, though occasionally in <i>off.</i> A and E. Three dies (P 64, 66, 118) are common to <i>off.</i> A. |
| (4) SPQR/OB/CIVSER in
wreath | 29 | Mainly found here, though also in <i>off.</i> A, with which there are three dies in common (P 74, 84, 130), and in C I. P 31 is used with an obverse of Vitellius. ³⁵ |
| (5) Victory carrying Palladium l. | 10 | Also in <i>off.</i> A and B. |
| (6) Victory carrying wreath r. | 3 | Also in <i>off.</i> A, B, C and E. |
| (7) Victory standing l. holding
wreath. | 1 | Only here (P 16). |

This *officina* was one of the most productive, and certainly provides the largest continuous die sequence, yet its range of reverse types is extremely limited, two only (out of seven) being found in any quantity. Furthermore it has the peculiarity of being the only *officina* which uses an obverse legend that omits the title Caesar. This is evidence that it was the first section of the mint to start issuing *aes* in Galba's name after the death of Nero. On the other hand, it was closed earlier than the other *officinae* (except E), for, unlike them, it includes no dies with *pontifex maximus*. When the title Caesar was adopted, the rest of the titulature was remodelled at this *officina* by the transference of IMP from the beginning to the middle, where it now immediately preceded CAES. The uniform style of portraiture and the occurrence of ten reverse dies linked to both forms of obverse legend³⁶ is sufficient proof that we have here, not two *officinae*, each using different forms of titulature, but two stages in the history of one *officina*. The last peculiarity is that this *officina*, as has been noticed above, shared at least six of its reverse dies with *officina* A; and one reverse die of an *officina* A type has been observed coupled with an obverse of D.³⁷ This evidence for transference of dies between *officinae* A and D will find its place in the subsequent discussion.

³⁵ Gneecchi, *I Medaglioni Romani* III, pl. 142, 11.

³⁶ P 18, 48, 50, 51, 68, 74, 95, 99, 152, 157.

³⁷ See note in Catalogue of Dies p. 98 f.

OFFICINA E
(PLATES XXV-XXIX)

Contents

Obverse dies: 24

Reverse dies: 32

Die sequences: This *officina* has, surprisingly, yielded no die sequences; a glance at the die links of A (Diagram I), a group of comparable size, will show how unusual is this paucity of links. Two lines of explanation are available.

(1) The output of this *officina* was so large that the portion here recorded is not representative and therefore shows very few links. This is unlikely, because obverses of this type do not seem any more common than those of other *officinae*, nor is there any reason to suppose that time has dealt especially hardly with this group, so that few only survive. Moreover the life of this *officina* was short, for it not only has no coins which omit CAES from the obverse legend, but it equally has none which include *pontifex maximus*.

(2) The alternative is that this *officina* was differently organized, so that there was little opportunity for obverse dies to be used with more than one reverse. The normal practice here seems to be that dies were kept in pairs, and when a flaw was detected in either die, the pair was destroyed.

In the absence of die links, coins must be attributed to this *officina* by the distinctive obverse legends.

Obverse legends

- | | |
|--|------|
| (1) IMP SER SVLP GALBA CAES AVG TR P | (18) |
| (2) IMP SER SVLPIC GALBA CAES AVG TR P | (5) |
| (3) IMP SER SVLPICIVS GALBA CAESAR AVG | (1) |

Portraiture (PLATES XXV-XXVII)

The head is here always to the right, and the bust always draped. One die (A 114) has an oak wreath in place of the usual laurel.³⁸ Some portraits are related to the draped busts of C I: compare A 19 (PLATE XXV) with A 34 (PLATE X), A 151 (PLATE XXVII) with A 51 (PLATE X).

Reverse types (PLATES XXVII-XXIX)

Description	No. of dies	Notes
(1) LIBERTAS PVBLICA	21	Also in <i>off.</i> B, C and D.
(2) ROMA stg. 1.	1	Also in <i>off.</i> B and C I.
(3) ROMA seated on arms and resting l. arm on shield	3	Type characteristic of <i>off.</i> D, but also found in A.

³⁸ See note 34 above.

- | | |
|--------------------------------|--|
| (4) Victory carrying wreath r. | 6 Also in <i>off.</i> A, B, C and D. Two dies (P 32, 38) are common to <i>off.</i> C I. |
| (5) SPQR/O-B/CIVSER in wreath | 1 This die (P 205) is typical of C I (note the spacing O-B) where it is found combined with two obverse dies. It is here combined with A 151 which has a portrait of C I style, but legend appropriate to E. |

Libertas is the characteristic reverse type of this *officina*. All the remaining types are more appropriate elsewhere. The connections with C I are especially close, amounting to three dies in common. The standing Roma die was presumably also obtained from C I; for the seated Roma the most probable source is *officina* D, which provided similar dies to A (see above p. 15).

The gentile name Sulpicius, the distinguishing mark of the obverse legend of this *officina*, is found otherwise only in *officina* G where, however, it is always abbreviated SVLPI.

Mint Organization.

Five groups of coins (A to E) have now been described in detail. Before passing on to consider the temporal interrelations of these groups, it is necessary to be quite certain they really are independent entities and not merely blocks of coinage that appear to be isolated owing to deficiencies of the evidence. The nucleus of each group (except E) is a long and complex die sequence; between these major groups die links are comparatively rare, the most numerous being the six reverse dies common to A and D. In contrast to this, the main sequence of A is made up of 71 internal links, while D has no less than 94. Such disproportion between external and internal links cannot be accidental, especially when differences of style, obverse legend and, sometimes, range of reverse types follow the same lines of division. Nor should the existence of occasional links between groups be thought a serious difficulty; whatever these groups represent—and that has yet to be determined—considerations of physical proximity or administrative convenience readily explain these few links.

These groups, then, are something more than sequences of die-linked coins isolated from one another only by defects in the evidence. They can be interrelated in three different ways.

(1) They may be arranged vertically, that is as successive stages in the output of a single mint. Different forms of title and varying ranges of reverse types would then represent a series of changes in policy; die-links between groups would be caused by reverse dies used with successive forms of obverse legend; the absence of such links in some cases would have to be attributed to the fragmentary nature of the evidence. Such a view does not really account for the disproportion in quantity between the external and internal die-links of each group.

(2) Alternatively the groups may be arranged horizontally, as the simultaneous output of a number of mints or *officinae* of a single mint, some of which were in sufficiently close physical proximity for the same dies to be used occasionally in neighbouring workshops.

(3) The third possibility is, that both (1) and (2) may be involved—that some groups may be successive while others are contemporary.

Acceptance of the hypothesis of successive stages is rendered extremely difficult by the behaviour of the obverse legends, which do not lend themselves to any logical scheme of development: B and E begin with **IMP**, A and C with **SER**, and D employs both forms. The picture of these variations succeeding each other in a period of little more than four and a half months—and perhaps less—would argue a total absence of control or policy in the mint. But there is one piece of evidence which is decisive for at least three of these groups being contemporary throughout part of their activity. A, B, C, all end with a few dies which include **PM** in the obverse legend; Galba was elected *pontifex maximus* between his arrival in Rome, probably in October and the 22 of December. Thus three units are found to have ceased working shortly after Galba was elected *pontifex maximus*. D and E have no dies that include **PM**, and therefore ceased production earlier; by analogy they must be two further units, partly contemporary with A, B and C. There were, then, certainly three, and possibly five, units coining simultaneously.

A general picture of the activity of the five *officinae* A to E can now be attempted, based on the facts disclosed in the previous de-

tailed examination. Reference to Diagram 6 (opp. p. 54) will assist in following the argument.

Upon the death of Nero on 9 June A.D. 68 the Senate chose Galba to be his successor; from this date too the way was clear for mints at Rome and elsewhere to start coining in his name. The earliest issues, in precious metal only, gave Galba the title of imperator alone, omitting both Augustus and Caesar. At Rome two types only were employed, a standing figure of VIRTUS and SPQR OB C S in oak wreath, a type now traditionally associated with the beginning of a reign.³⁹ After a short interval—for this early issue is rare—the news reached Rome that Galba was following the precedent set by his predecessors and had adopted the name Augustus. At this point an *officina* for *aes* was opened, for D alone has dies which include Augustus but omit Caesar; the titulature employed, IMP SER GALBA AVG TRP, is obviously derived from the IMP SER GALBA of the first silver. The early date of this section of *officina* D is further confirmed by the use of the reverse type SPQR OB CIV SER in oak wreath. This and the seated ROMA are the main types of *officina* D, but, among the reverse dies combined with dies using the present form of obverse legend, wreath dies are twice as numerous as Roma dies. As though to emphasize the importance of this reverse type, the portrait of Galba is frequently crowned with an oak wreath on these early obverses;⁴⁰ in the second phase of D (obverse dies with legend SER GALBA IMP CAES AVG) and in all other *officinae* the laurel is practically invariable.⁴¹ It is evident that Galba—or more probably his supporters, since he was not himself in Rome—took particular care to employ, and publicize the employment of, the traditional forms of accession inherited from the Julio-Claudians.

Further evidence of this policy is the use of the title Caesar which Galba was apparently persuaded to adopt by the deputation of Senators which met him at Narbo. When news of this decision reached

³⁹ RIC I, Galba, nos. 20 and 26. Outside Rome the "horseman" issues also omitted both Caesar and Augustus, *ibid.*, nos. 74ff. and 108ff.

⁴⁰ Of 15 dies 2 are bareheaded, 9 have oak-wreath (A 13, 14, 36, 40, 45, 64, 65, 101, 141) and 4 have laurel (A 49, 50, 100, 153). Of the later dies of D (SER GALBA etc.) only 2 (A 63, 137) out of 19 have the oak wreath.

⁴¹ See note 34 above.

Rome, the titlature in use at *officina* D was emended to read **SER GALBA IMP CAES AVG**—though why the inclusion of **CAES** should have involved the displacement of **IMP** from the beginning to the middle of the legend is not clear. Certainly the addition of **CAES** to the original legend of D would have produced the same titlature as that to be used in B; perhaps, for some administrative reason, the easiest course was to make the change in D.

At this time the mint expanded considerably, for two further *officinae*, C I and B, started working.⁴² The draped busts which are numerous in both seem to be a feature taken over from D; later they became much less popular. After an interval further changes were made. The oldest *officina*, D, was closed; this certainly happened before Galba became *pontifex maximus* (since none of its dies include this in the titlature). How long before is suggested by the fact that a number of its reverse dies were transferred to A which then used up 24 obverse dies before **PM** was inserted into its obverse legend. The peculiarities of *officina* A will be examined later. Meanwhile *officina* C was undergoing what can best be described as reorganization, since it does not seem to amount to total interruption. The engraver of the draped busts of C I was transferred, together with some reverse dies, to the newly opened E, and was replaced in C II by one who engraved his heads facing left. Some time later E closed, for it has no **PM** dies, while A, B and C all continued working for a short time after Galba became *pontifex maximus*.

Group A, however, in view of its distinct style and types, demands special treatment. The style has been noticed already; it is in no sense incompetent or "provincial," its idiom is simply different from that of the other groups. Yet in default of clearly marked antecedent or subsequent groups in the same style, little more can be gained at present from this approach.

The die-sequence of A (Diagram 1) shows that this *officina* in its early stages was in close touch with the other *officinae* of Rome, drawing particularly on D. Yet its later output diverges so markedly from that of the other *officinae* that the question must arise whether

⁴² B has fewer obverse dies than the other *officinae*; this, however, provides no evidence for the length of time for which it was open, which depends on the rate at which the dies were used.

A, although originally an *officina* of Rome, did not eventually become a second mint, far removed from the immediate influence of the mint of the capital. The difference is not merely in the range of types, but in matters of practice also. This is revealed most clearly in the Libertas type, in which not only the abbreviation **LIBERT**⁴³ and the adjective **AVG(VSTA)**,⁴⁴ but also the drapery of Libertas differs from the practice of the other *officinae*. The seated Pax type (P 23, 80), in other *officinae* always labelled **CONCORDIA**, the elaborate **ROMA** dies (P 14, 24, 36), the preference for the formula **EX SC OB CIVES SER** (once the borrowed dies with **SPQR OB CIV SER** were used up) are all examples of the individuality of *officina* A. They seem to indicate a progressive weakening of Roman influence and suggest that perhaps this *officina* was removed from the city of Rome.

This suggestion receives some support from the formula **R XL** which is added to some reverse types in *officina* A only. This remission by Galba of the $2\frac{1}{2}\%$ customs duty was a reward for the support given him by Gaul and Spain,⁴⁵ and, apart from *officina* A, received numismatic mention on issues of non-Roman origin only.⁴⁶ The tax in question, the *quadragesima Galliarum*, was exacted at all points of entry into Gaul, including the Pyrenees frontier with Spain;⁴⁷ its remission may be regarded as a practical step towards the much publicized *concordia Hispaniarum et Galliarum*,⁴⁸ but, as such, was of little interest to Rome itself. It may fairly be argued that a coinage which publicized it was intended to circulate mainly in Gaul and Spain. When this coinage, despite early links with other *officinae*, is found to develop traits foreign to the issues of Rome, there is at least a case for claiming a final location in Gaul or Spain. Of the two, Gaul is the most likely, partly because the remission mainly affected that province, and partly because Gaul had been the most active on

⁴³ **LIBERT** is occasionally found at Rome, but only at a very much later date; *RIC* III, Commodus, nos. 135, 171, 526.

⁴⁴ The form **LIBERTAS AVGVS** occurs on asses of *officina* A, e.g. *BMC* I, p. 333, no. 142, note; with this cf. **C CAES AVGVS F** on Lugdunum denarii of Augustus (*RIC* I, Aug., no. 348).

⁴⁵ Tac., *Hist.* I, 8; it was soon reimposed by Vespasian (Suet., *Vesp.* 16).

⁴⁶ At *officina* F (Lugdunum), see below pp. 33 ff.; in Spain *RIC* I, Galba, nos. 101–103.

⁴⁷ See de Laet, *Portorium*, pp. 144 ff., and esp. pp. 170 ff.

⁴⁸ *RIC* I, p. 183, no. 27; Galba, nos. 1 and 5.

Galba's behalf. Lugdunum is unlikely, since it is already the home of *officina* F with which A shows no stylistic relation; Narbo, probably the headquarters of Galba while in Gaul, is a possible centre.⁴⁹

Since this is the first time that any demarcation of *officinae* has been proposed for any date earlier than the mid-3rd century, the implications of this must be examined. In the 3rd century, there is quantitatively little difference between the output of antoniniani of, say, Gordian III, Philip and Trajan Decius; in other words, the mint and its subdivisions were organizations which carried on—and will probably in time be traced—from reign to reign. In the first century things were very different. Not only was the output uneven in quantity, but it was subject to the most violent fluctuations and even total intermissions for substantial periods. Nero, after producing no *aes* coinage at all for ten years, then concentrated an immense output into the last four years of his reign; under Galba a large output of sestertii took place for a few months, but practically all work seems to have been stopped well before the end of his reign. The issues of sestertii for Vitellius were small, and virtually none were issued for Vespasian until A.D. 71, when the output for one year was greater than for all the remaining eight years of his reign together. In these circumstances the continuous activity of *officinae* from reign to reign should not be expected. The organization must have involved a very small technical staff, including both administrative and metallurgical experts, which could be rapidly expanded by signing on casual labour. The actual process of preparing the metal and striking the blanks would be within the capacity of any metal worker. The most specialised job would be the actual sinking of the dies, yet this too is work closely akin to that of gem-engravers, from among whom additional artists could be sought in an emergency.⁵⁰ Variations in style, especially noticeable in Vespasian's early sestertii of A.D. 71, suggest that engravers may have produced only a few dies each. The case seems to be different in provincial mints where artists may have been scarcer; the distinctive features of Lugdunum, observable under Nero, Galba, and Vespasian, suggest a more permanent form of em-

⁴⁹ See *BMC* I, p. ccx.

⁵⁰ Furtwängler, *Antike Gemmen* I, pl. XLVIII includes a number of gems showing the closest relationship to coin portraits (especially nos. 31 and 34-38).

ployment, and the obverse dies of Galba's *officina* A show such consistency that they might all be the work of one man. It must have been some such system as this which enabled Galba first to open one *officina*, then to expand to four, and then, after a few months, to close down all to make way for *officina* G, which will be the main subject of the next chapter.

The principal characteristic of these *officinae* is their insularity; each was an essentially self-contained unit, and a plausible hypothesis would be that each was under the control of one moneyer. These officials continued to exist certainly until the 3rd century A.D., but about their duties under the Empire there is no information.⁵¹ On their last appearance on the coinage (in the last decade B.C.) they were operating in boards of four, despite the retention of the title *III Vir*;⁵² in conformity with this, Galba has a maximum of four *officinae* working at one time, A, B, C II, E (Diagram 6).⁵³

These *officinae* used varying forms of the imperial title as their signatures—a rather surprising conclusion in view of the official nature of both coinage and title, but one which a juxtaposition of the forms employed fully justifies.⁵⁴

1 D followed by A SER GALBA IMP CAES AVG.

2 B IMP SER GALBA $\left\{ \begin{array}{l} \text{CAE} \\ \text{CAES} \\ \text{CEASAR} \end{array} \right\}$ AVG

3 C I and II SER GALBA IMP CAESAR AVG

4 E IMP SER $\left\{ \begin{array}{l} \text{SVLP} \\ \text{SVLPIC} \\ \text{SVLPICIVS} \end{array} \right\}$ GALBA $\left\{ \begin{array}{l} \text{CAES} \\ \text{CAESAR} \end{array} \right\}$ AVG

5 G SER SVLPI GALBA IMP $\left\{ \begin{array}{l} \text{CAE} \\ \text{CAESAR} \end{array} \right\}$ AVG

⁵¹ Pink, *The Triumviri Monetales and the Structure of the Coinage of the Roman Republic* (ANS Num. Studies no. 7, 1952), p. 66.

⁵² *RIC* I, Aug., nos. 198–218.

⁵³ If a reversion to boards of three moneyers is considered more likely, this could be met by the assumption that A, outside Rome, was not the responsibility of the Roman moneyers.

⁵⁴ *Officina* F (Lugdunum) is omitted since it does not fall within the Roman scheme.

Internal variation never amounts to confusion between the forms, and in 1 and 3, where confusion was easiest, the distinction between the abbreviated and unabbreviated **CAESAR** was rigidly adhered to. In epigraphy the degree of variation is much less, for there the form beginning **SER GALBA** is almost invariable, though **SVLP** is sometimes inserted and the use of **CAESAR** is erratic.⁵⁵

In the 3rd century the mint seems to have been divided into six *officinae*, each of which was responsible for a single type.⁵⁶ Of such an arrangement in Galba's *officinae* there is little trace, for E is the only one to be devoted almost wholly to a single theme, *Libertas*. In the other *officinae* the picture is confused; some themes, such as Victory and *Libertas*, play a part throughout; others are confined to one or two *officinae*; C II possibly copied the *Concordia* type from B. Altogether there is little sign of control or co-ordination, and it looks as though, in the absence of the emperor, the moneyers may have been left largely to their own devices in selecting types which they hoped would meet with approval, or at least avoid offence. Certainly the range of types is not impressively original. **SPQR OB CIV SER** in wreath was a routine type, the seated **ROMA** was copied from Nero, *Libertas* from Claudius, and neither *Concordia* nor Victory were new or arresting conceptions. *Officina* A alone, when removed from Rome, showed some originality. Perhaps it is not surprising to find that these uninspired productions were suppressed soon after the arrival of Galba in Rome; the types used in *officina* G certainly made up for the lack of originality of their predecessors.

⁵⁵ For a titulature starting **IMP** see *CIL* II, 2779, but too fragmentary to supply further details. For **SVLP**, see *CIL* III, 8702. *Diplomata* dated 22 Dec. read **SER GALBA IMP CAES AVG** (*ILS*, 1988), and an unofficial inscription dated 15 Oct. has **SER GALBA IMP AVG** (*ILS*, 238).

⁵⁶ *RIC* IV, pl. III, pp. 3 ff.

III

THE LAST *AES* ISSUES

Officinae F and G have nothing in common except that both are to be dated late in the reign and that both have been held to be posthumous, that is, struck by Vespasian in honour of Galba, whose name they bear. The main purpose of this chapter is to re-attribute these issues to the reign of Galba and to fix their relationship to his earlier issues. The first group to be dealt with, *officina* F, is extremely small, but is of interest because, in part at least, it reflects Galba's last major act, the adoption of Piso on 10 January A.D. 69. The second, *officina* G, is one of the most dramatic ever to be produced by the mint of Rome.

OFFICINA F (PLATES XXIX-XXXI)

Contents

Sestertii:	Obv. dies: 2
	Rev. dies: 3
Dupondii and Asses:	Obv. dies: 8
	Rev. dies: 9

Obverse legends

Sestertii and Dupondii	}	SER GALBA IMP CAESAR AVG P M TR P P P
Asses:	(1)	SER GALBA IMP CAESAR AVG PON M TR POT
	(2)	SER GALBA IMP CAESAR AVG P(ON) M TR P P P

Portraiture (PLATES XXIX-XXX)

The style is different from anything in the *officinae* already described. The outstanding features are a broad head on a thick neck, a globe at the point of the bust, and an M-shaped truncation to the neck. These are precisely the features characteristic of the issues of Nero and Vespasian from the mint of Lugdunum. The attribution of Galba's coins to this mint is confirmed by several of the reverse types employed.

Reverse types (PLATES XXIX–XXXI)

	Description	No. of dies	Notes
Sestertii			
1.	XXXX REMISSA Arch.	2	
2.	VICTORIAE IMP GALBAE AVG Victory inscribing shield	1	This type with legend VICTORIA PR is otherwise found only on a denarius attributed to Gaul. ¹
Dupondii and Asses			
1.	FIDES PVBLICA	2	A type not otherwise found on Galba's coinage. A common Lugdunum type under Vespasian, but not at Rome till Domitian.
2.	LIBERTAS PVBLICA	3	On two dies the legend reads inwardly from top right.
3.	PAX AVG Pax sacrificing over altar and holding branch and caduceus	1	Here only for Galba. A common type under Vespasian, but at Lugdunum only.
4.	ROMA (in ex.) seated l.	3	This is the normal Neronian sestertius type at Rome and Lugdunum. The same type was still in use on sestertii and dupondii at Lugdunum under Vespasian. ²

On the evidence of both style and reverse types *officina* F must be placed at Lugdunum, as Mattingly pointed out long ago,³ but he attributed this activity of Lugdunum to the reign of Vespasian, on the grounds that the mint was closed by Galba as a punishment for the city's opposition to Vindex and loyalty to Nero. But the mint of Lugdunum was an imperial establishment, located there after mature consideration of problems of supply, demand and distribution, and not a privilege conferred upon Lugdunum, which might be rescinded if the city misbehaved. There is no reason for doubting that *officina* F represents the output of Galba's mint of Lugdunum; the problems

¹ *BMC* I, Galba, nos. 232 ff.

² *BMC* II, pl. 38, 2 and Ryan 2741.

³ H. Mattingly "'Victoria Imperii Romani,' and some Posthumous Issues of Galba," *NC*, ser. 5, II (1922), pp. 186 ff.

are why does this mint alone add the title *pater patriae* to some of its issues, and why is its output so small.

Pater patriae is otherwise found only on a few rare aurei and denarii, also attributed to Lugdunum.⁴ It is never found on coins of Roman origin,⁵ not even on the so-called "posthumous" issues of *officina* G, which, it will be argued below, were actually the last *aes* issues of the reign from Rome. The suggestion has been made that the title was a posthumous honour—and therefore recorded only on posthumous coins⁶—but, in default of decisive evidence, this is a desperate resort, for there is nothing in the coins themselves to show they were not issued by the man whose head and titles they bear.

There was, in fact, an appropriate occasion for the bestowal of this title when Galba adopted Piso as his son and successor on 10 January A.D. 69;⁷ this would have followed the precedent of Augustus who was hailed *pater patriae* when he introduced his grandson and intended successor, Lucius Caesar, into public life in 2 B.C.⁸ The title ought to appear on Galba's coinage; it does so at Lugdunum, but is absent at Rome. A reasonable deduction is that the mint of Rome was closed during the early days of 69, perhaps because of the uncertainty of the political future. The mint of Lugdunum was already operating, since some of its asses omit PP; instructions were despatched from Rome that *pater patriae* was to be added to the titles. By the time this could be done at Lugdunum, Galba was already dead, but the time this news took to reach Lugdunum was sufficient to allow the issue of a few coins with PP in the obverse legend.

The output of Lugdunum was so small because it started working

⁴ *BMC* I, Galba, nos. 237 and 241–243. It is worth observing that these portraits are very similar to some of those of *officina* F, e.g. A xiii and xvi (PLATE XXX).

⁵ A struck forgery exists with reverse PP OB CIVES SERVATOS SC in wreath and an obverse of *officina* C type (PLATE XXXVI, A, B). It is condemned by the combinations of the reverse die; see Catalogue of Dies p. 119. References in *BMC* I, pp. ccxv and 320* should therefore be deleted.

⁶ Mattingly in *NC* ser. 5, II (1922), p. 190.

⁷ Tac., *Hist.* I, 14 ff.

⁸ *RGDA* (ed. Gagé), 35. It is possible that the title, though given to Claudius in A.D. 42 was not recorded on the *aes* coinage until A.D. 50, the year when he adopted Nero (Kraay, "Monnaies du Haut-Empire à Vindonissa," *Schweizer Münzblätter* III [1952] pp. 53 f.).

3*

only very late in Galba's reign. All obverse dies include *pontifex maximus*, only two (P xvii, xviii) do not include *pater patriae*, which was added in January 69. It seems likely then that this mint reopened on 1 January 69. Previously its place was taken by *officina* A, which, as was argued above (p. 28f.), was probably sent from Rome to Gaul. This *officina*, however, had been closed soon after Galba became *pontifex maximus*, but the experience of the reigns of Claudius and Nero had shown that a mint was required in Gaul to ensure adequate distribution of *aes* currency. Lugdunum had barely restarted when its work was stopped by news of Galba's murder; this interruption lasted, so far as *aes* was concerned, until Vespasian again made Lugdunum a major mint in A.D. 71.

OFFICINA G
(Diagram 5: PLATES XXXI-XXXVII)

Contents

Sestertii:	Obv. dies: 11
	Rev. dies: 16
Dupondii and Asses: ⁹	Obv. dies: 14
	Rev. dies: 20

Die sequences: Practically all coins observed fall into two main sequences, of which the sestertius sequence is remarkably compact and complicated. These sequences prove that one mint only can be involved, and that the proposal to share this issue between Rome and Lugdunum must be rejected.¹⁰

Obverse legends

- (1) SER SVLPI GALBA IMP CAESAR AVG TR P
- (2) SER SVLPI GALBA IMP CAE AVG P M TR P
- (3) SER SVLPI GALBA IMP CAESAR AVG P M TR P

Nos. 1 and 3 are common to all denominations; no. 2 is the legend of sestertius die A 120 only.

Portraiture (PLATES XXXI-XXXIV, XXXVII)

Sestertii. The portraits are unusually fine and large, and mostly face right. The heads are always laureate, and most have some further adjunct such as aegis, globe or drapery. It is sometimes possible to trace a stylistic connexion between these dies and some of the later dies (those

⁹ The same dies were used for both denominations; dupondii are very uncommon.

¹⁰ *BMC* I, p. ccxv.

including *pontifex maximus*) of the other *officinae*,¹¹ but on the whole the spirit is new and the execution superior.

Dupondii and Asses. The same general characteristics are found. There are here no heads to the left; the wreath is occasionally omitted, and the aegis does not appear. Probably the same engravers were employed as for the sestertii (cf. A ii with A 123, A iv with A 122, A iii and vi with A 124 and 127).

Reverse types

Description	No. of dies	Notes
Sestertii (PLATES XXXII-XXXVII)		
1. ADLOCVTIO	2	
2. HISPANIA CLVNIA SVL	2	
3. HONOS ET VIRTVS	4	P 185, 195 used by Vitellius.
4. LIBERTAS RESTITVTA	1	
5. MARS VICTOR	1	
6. PIETAS AVGVSTI	1	
7. ROMA	1	
8. ROMA RESTI	1	
9. Aesculapius	1	
10. SENATVS PIETATI AVGVSTI	1	
11. VICTORIA IMPERI ROMANI	1	
Dupondii and Asses (PLATES XXXIV-XXXVI)		
1. AEQVITAS	1	
2. AEQVITAS AVGVSTI	2	
3. PAXS AVGVSTI	2	
4. PROVIDENT	1	
5. Victory	5	
6. 3 standards on prows	4	P iv used by Vitellius and Vespasian, P xii used by Vespasian.
7. SALVS AVGVSTI	3	
8. SECVRITAS P ROMANI	2	P viii used again by Vespasian.

Among these types the great majority are new to the coinage, but between the sestertii and the Æ 2 there is a great difference in elaboration. The Æ 2 types are nearly all fairly simple and thus capable of easy multiplication for a large coinage. The sestertii, on the other hand, have for the most part extremely elaborate types, obviously

¹¹ E.g. A 123 (PLATE XXXI) and A 71 (PLATE XIV).

conveying some special point. In many cases the precise point intended is obscure, but some comment on these types will serve to bring out the character of this issue, and will form the background for the subsequent discussion of the claim of these issues to be posthumous.

ADLOCVTIO (P 188, 192: PLATE XXXII). The type, as here worked out, is something new on the imperial coinage; the previous versions of this theme issued under Gaius and Nero were stiff and formal groupings very different from the realistic composition of Galba's dies.¹² Although only four men and a horse are shown below the rostrum, the impression of a larger crowd is effectively conveyed by the same device as was used on the panels of the Arch of Titus—the multiplication of fasces and standards, not all of which are connected with the figures shown. All details of armour, standards and dress are most carefully rendered.¹³

For the identification of this scene there are several possibilities. Mattingly has tentatively identified the scene as the opening of hostilities against Nero, thus setting it in Spain;¹⁴ yet such an occasion would more properly call for a *cohortatio* rather than an *adlocutio*. Moreover the only two previous examples of the type, those of Gaius and Nero carry specific reference to the Praetorian cohorts (**ADLOC [VT] COH**), and the next later example, that of Nerva, even though the direct reference is absent (**ADLOCVT AVG**) can hardly relate to anyone but the Praetorians, since Nerva never left Rome. There is then some reason to suppose that Galba's type refers to some parade of the Praetorians in Rome. One such parade and address figures prominently in the literary tradition, that at which the adoption of Piso was announced;¹⁵ yet this can hardly be in question here, for all sources represent the adoption as an impromptu decision, taken when news of the revolt of the German legions on 1 January 69 reached Rome. It would have been chronologically impossible for such a reference to have appeared on the coinage; moreover, the type occurs

¹² The enlargement (PLATE XXXVII) is of the remarkably preserved specimen formerly in the Martinetti and Pierpont Morgan collections.

¹³ On P 192 the shield of the foremost soldier is ornamented with a boss in the form of a human head—or is it a real human head fixed on the boss, perhaps Nymphidius Sabinus?

¹⁴ *BMC I*, p. ccxvi; cf. *NC*, ser. 5, II (1922), p. 195.

¹⁵ Tac., *Hist.* I, 17 f.; Suet., *Galba*, XVII f.

combined with an obverse die (A 121) which omits PM from the legend, and must, therefore, go back to a time soon after the arrival of Galba in Rome. The remaining and most probable alternative is that the occasion was an "accession parade" of the Praetorians soon after Galba's arrival in Rome.¹⁶ Since the accession of Gaius, formal acceptance of a new emperor by the Praetorians was a necessary part of the formalities of accession, and this acceptance no doubt followed upon an *adlocutio* in which the emperor undertook to preserve intact the privileges of the Guard. In this way Galba's type is the natural successor of the "Praetorian" types of Gaius, Claudius and Nero.¹⁷

HISPANIA CLVNIA SVL. (P 183, 189: PLATE XXXII). This type is equally remarkable and even more difficult to interpret. In general it must refer to the circumstances in which news of his accession reached Galba in a moment of despair and indecision at Clunia in Spain. Many details of the type, however, defy full explanation.

On the analogy of the sestertius of Vitellius with legend **PAX GER ROM**, on which these three characters appear in that order from left to right,¹⁸ the legend **HISPANIA CLVNIA SVL** should also name three characters, even though two only are shown in the type. Mattingly, taking this view, believes Hispania to be "the odd man out" and that **SVL** (= Sulpicius) is Galba; the type then "shows Clunia, as representative of Spain, offering the Empire" to Galba.¹⁹ Passing over the oddity of the abbreviation **SVL**, when **SVLP**, **SVLPI** or **SVLPIC** are the only forms otherwise found on Galba's coinage, the conception that the insignificant city of Clunia was in any sense responsible for the transference of power,²⁰ or indeed had the empire

¹⁶ In this case the second figure on the rostrum would presumably be the praetorian prefect, Cornelius Laco.

¹⁷ It is interesting to see that, despite the fact that 2nd cent. *adlocutio* types reverted to the stiff groupings of the early 1st cent., a medallion of Caracalla copied Galba's type with care, except that a third figure was crowded on to the rostrum, since at that time there were two Augusti (Toynbee, *Roman Medallions* (New York, The American Numismatic Society, 1944), pl. XLIV, 3; Gneecchi, *I Medaglioni Romani* II, pl. 95, 2.

¹⁸ *BMC* I, p. 377.

¹⁹ *Ibid.*, p. ccxvi.

²⁰ Clunia had produced some timely oracles, Suet., *Galba* IX.

in its gift, is very strange on a coin issued in Rome, and hardly complimentary to the Senate in view of the initiative taken by that body. Others have taken SVL to be an honorary epithet given to Clunia by Galba²¹ though there is no confirmation from inscriptions, nor does this serve to elucidate the relationship between legend and type.

The type itself has unusual features. Alföldi has noted the occurrence, extremely rare at such an early date, of a seated emperor in the presence of a standing deity.²² He also quotes a number of later examples from medallions on which the emperor is seated with deities or personifications standing in attendance,²³ yet all these show the emperor seated in a magisterial capacity on a *sella curulis*, and not on a marble throne. Such thrones are very rare on the coinage, and then are occupied by deities, Dionysus and Salus.²⁴ These parallels, however, serve only to emphasize the peculiarity of the type without explaining it. The results of this inconclusive discussion can be summarized as follows:

(a) The seated figure can hardly be anyone but Galba, though the singularity of his throne remains unexplained.

(b) The standing figure is more likely to be Hispania (and the name is beside her) than Clunia.²⁵ There are other references on Galba's coinage to the support given him by Spain, and the wording of Suetonius (*Galba XVI*), *imperatorem in Hispania factum*, shows that the decisive initiative was thought to have come from Spain, although the Senate's action had priority in time.

(c) The general line of explanation on the basis of Galba's retirement to Clunia is probably correct, though the precise allusion is obscure.

²¹ PW, *s.v.* Clunia.

²² RM XLIX, p. 43.

²³ *Ibid.*, p. 43 f. and notes.

²⁴ Gneccchi, *I Medaglioni Romani* II, pl. 62, 3 and 67, 4; on the latter see Toynbee, *Roman Medallions*, p. 222. For a similar group in sculpture, see the fourth slab of the Phaidros *bema* from the theatre of Dionysus at Athens dating from the 2nd half of the 2nd cent. A.D. (Herbig, *Das Dionysos-Theater in Athen* II, pp. 40 ff.).

²⁵ This is not the normal contemporary personification of Hispania, who usually carries round shield, spear and corn ears. The unusual profile figure is clearly from the same hand as the Aequitas of P xiii (PLATE XXXIV).

HONOS ET VIRTUS (P 182, 184, 185, 195: PLATE XXXII). The type is found under Galba, Vitellius, and Vespasian (in A.D. 71 only); two of Galba's four dies of this type were used by Vitellius. It has usually been interpreted as a mere appeal to military deities, equally appropriate to all three emperors at a time when military support counted for much. Yet this triple appearance of deities uncommon on the coinage, coupled with the magnificent reconstruction of their joint temple carried out by Vespasian,²⁶ suggests something more. The clue seems to lie, as Professor Grant has pointed out independently, in the fact that the tercentenary of the temple of Honos, vowed by Q. Fabius Verrucosus fell at about this time.²⁷ The premature deaths of Galba and Vitellius allowed Vespasian to complete the celebration.

A further word is necessary on a detail of interpretation. The object beneath the foot of Virtus has been thought to represent a boar's head, referring—on the “posthumous theory”—to the suppression of the Gallic revolt by Vespasian.²⁸ The object is clearest on P 182 (PLATE XXXII) and there looks much more like a muscled cuirass (the skirt perhaps omitted through foreshortening). The figure then becomes identical with the Roma Victrix type of Vespasian;²⁹ a silver cup from Boscoreale includes a very similar figure with “le pied gauche posé sur un casque derrière lequel on distingue un débris de cuirasse”³⁰. On other dies the object is sometimes a helmet but is most often quite indeterminate.

LIBERTAS RESTITUTA, ROMA RESTI (P 191, 193: PLATE XXXIII). These two types may be grouped together, for the meaning of both is similar and in each case the legends are derived from the slogans of the recent civil wars.³¹ The group in the *libertas* type

²⁶ Pliny, *NH* XXXV, 10, 37f.

²⁷ *RAI*, p. 87 n. 3. Grant also points out that Antoninus Pius seems to use the type of Honos on the 350th anniversary of the foundation (p. 105).

²⁸ *BMC* I, p. ccxvi and p. 357, no. 255.

²⁹ *BMC* II, pl. 22, 2.

³⁰ *Mon. Piot.* V, p. 136 where M. de Villefosse identifies with Roma. This seems preferable to Rostovtzeff's Virtus (*The Social and Economic History of Roman Empire* [Oxford, Clarendon Press, 1926], p. 76) since the accompanying figure with short robe and *palera* is much more like a genius (M. de Villefosse) than Honos (Rostovtzeff).

³¹ *RIC* I, p. 182, no. 9 and p. 184, no. 4.

(P 191, PLATE XXXIII) may be derived from sculpture since an inscription survives referring to a *signum libertatis restitutae Ser Galbae imperatoris Aug.*³² The arch of Trajan at Beneventum has a similar group of Trajan raising a kneeling woman. Trajan also has the group as a coin type, with legend **ROMA REST** and the addition of children in reference to his programme of alimenta.³³ The significance of the child in Galba's Roma type is less clear; at this date the reference cannot be to alimenta nor is the offer of a hostage appropriate. Perhaps the reference is rather to the prosperity which Galba is to confer on future generations by his "restoration" of Rome. In both types the submissive attitude of the deities Roma and Libertas before the emperor is something new and marks a stage on the road from principate to autocracy.

MARS VICTOR (P 199: PLATE XXXII). A type used by Vespasian in A.D. 71. Here it need be noticed only that the type differs from the commoner type of Mars Victor used by Vitellius and Vespasian, in which the god is bearded and fully armed; here he is a young beardless man, naked except for helmet and sash.

PIETAS AVGVSTI (P 196: PLATE XXXII). The only known specimen is in Paris, a worn, pierced and gilded coin, unique in both its dies. Under these circumstances it cannot remain entirely free from suspicion, especially in view of the peculiarity of certain details of the reverse type. Pietas, draped and veiled, stands facing; her left arm is raised with hand open, her right hand perhaps holds a box from which she may be dropping incense on the altar to her right.³⁴ The rectangular altar is piled with incense, and has on one side a relief of Aeneas carrying Anchises and leading Iulus. Behind the altar, and facing left, hovers what has been interpreted as the head and neck of a bull.³⁵

Some difficulty has been felt in explaining how this type is to be applied to Galba.³⁶ *Pietas* was one of the basic qualities of the prin-

³² *ILS*, 238.

³³ *RIC* II, Trajan 474.

³⁴ For the general attitude of Pietas cf. the common 2nd cent. type, e.g. *BMC* IV, pl. 76, 9.

³⁵ *BMC* I, p. 358⁺.

³⁶ *BMC* I, p. ccxvi; cf. *NC*, ser. 5, II (1922), p. 196.

ceps, and the exercise of it by Galba towards the Senate is referred to on another type of this issue. The Aeneas group here points to another field in which Galba exercised this quality. Dio describes Nero as the last of the descendants of Aeneas and Augustus,³⁷ but the names Caesar and Augustus were taken over by Galba, and with these names of the Julian *gens* the Aeneas group was closely connected. As a coin type it had already been seen on the coinage of Julius Caesar and of Octavian;³⁸ an altar at Carthage probably dedicated to the *gens Augusta* has the group sculptured in relief on one of its four sides,³⁹ and among the pedimental sculptures of the temple of Divus Augustus in Rome were figures of Aeneas with Anchises and Iulus, and Romulus.⁴⁰ This suggests that the Aeneas group on the altar on Galba's coin is there, not as a stock example of *pietas* (in which sense the group is not used), but to mark the altar as being dedicated to the *gens Augusta*.⁴¹ Galba had been adopted into—or rather had himself adopted into—the Julian *gens*, and Dio records a concrete example of the *pietas* of Galba towards his new ancestors, the burial in the Mausoleum of Augustus of those members of the family who had been murdered, and the re-erection of their statues.⁴² The mysterious “bull” remains unexplained, but the remarkable aptness of the type goes far, in the absence of further specimens, to vindicate the authenticity of this single survivor.

SENATVS PIETATI AVGVSTI (P 187: PLATE XXXIII). This type is important because there is again a related type of Vespasian reading CONCORDIA SENATVI; both show an identical group of the Senate, represented as an elderly togate man, crowning a cuirassed emperor, who carries a Victory: both figures carry olive (?) branches. The posthumous theory has given an ingenious explanation to this type of Galba.⁴³ It claims that there was no obvious reason

³⁷ LXIII, 29, 3.

³⁸ *BMC (Rep)* III, pl. LVII, 8 and CX, 20.

³⁹ *CAH*, PLATES IV, p. 134.

⁴⁰ Sestertius of Gaius, *BMC* I, pl. 29, 14; cf. Gagé, *MAH* 47 (1930), p. 145f.

⁴¹ *CAH*, loc. cit.

⁴² LXIII, 3, 4c. The story which made Iulus the first *pontifex maximus* (cf. L. R. Taylor, *Divinity of the Roman Emperor* [Middletown, Conn.: The American Philological Association, 1931], p. 59) may be relevant here, since Galba had recently been elected.

⁴³ *NC*, ser. 5, II (1922), p. 196.

to celebrate the *pietas* of Galba, but that, if these coins were issued by Vespasian, they were surely a signal example of the *pietas* of Vespasian towards his predecessor, Galba, and that it was this that the Senate was honouring. The great objection to this interpretation is that the **AVGVSTI** of the reverse will refer to Vespasian, while the **AVG** on the obverse refers to Galba. This would be an unparalleled and confusing usage, hardly less so to contemporaries than to us. Yet on general grounds there was good reason to honour the *pietas* of Galba; his behaviour towards his adopted Julio-Claudian ancestors has already been noticed and towards the Senate his attitude had been exemplary. For, when hailed emperor by his troops in Spain, he had rejected unconstitutional methods and declared himself merely *legatus SPQR*, thus putting himself at the disposal of the Senate. It is this respectful attitude towards itself that the Senate is represented as honouring.⁴⁴ Galba had shown *pietas* and the type is therefore appropriate to him. The similarity between this type and that of Vespasian with legend **CONCORDIA SENATVI** (*BMC* II pl. 20, 3) need not imply that they were produced side by side.

VICTORIA IMPERI ROMANI (P 194: PLATE XXXIII). The "posthumous" theory has made much of this type of Victory advancing left, holding wreath and palm. It survives, so far as is known, only on a single very badly preserved specimen in Paris, which, though the legend has perhaps been retouched, seems authentic. To the posthumous theory, this type is a final declaration by Vespasian that the *imperium Romanum* had triumphed over the *imperium Galliarum* of the followers of Civilis; Galba is associated in this triumph because, whereas "the Vitellian faction in Gaul had in fact betrayed the Empire" by surrendering to Civilis' rebels, "South Gaul—the Galban faction—had stood like a rock for Rome."⁴⁵ This may be true, but it still does not necessarily follow that this situation is referred to by the coin type; the probability is lessened if the type was not, as was originally supposed, struck at Lugdunum, but at Rome; the external die links (to be listed below) prove that the issue

⁴⁴ Prof. Grant doubts in a letter to me whether *pietas* can be used in this way, but it can certainly be exercised towards one's *patria*, and in these circumstances the Senate is the representative of the whole *populus Romanus*.

⁴⁵ *NC*, ser. 5, II (1922), pp. 193ff.

was minted at Rome, and the complex internal pattern of links forbids the segregation of any portion for issue elsewhere. If indeed this type was produced by Vespasian in Galba's name, it is surprising that it does not appear among Vespasian's own types, for the victory was his, and Galba's only by courtesy.

Perhaps **VICTORIA IMPERI ROMANI** has been overworked. The figure of Victory, without legend, is common on the sestertii of Galba, and even appears on the smaller denominations of *officina* G. Here for once we are given the name of the usually nameless Victory; it is a name less common than *Victoria Augusti*, but is not unorthodox or without parallel.⁴⁶ *Victoria Imperi Romani* does not refer to an actual victory in war, but rather to the power of conquering inherent in the Empire, whether being exercised at the time or not. It may well be that the appearance of this legend at this time was prompted by the news of nascent nationalist movements in Gaul.⁴⁷

The two remaining sestertius types, **ROMA** (P 190: PLATE XXXIII) and **Aesculapius** (P 186: PLATE XXXIII) require little comment. **ROMA** is unusual only in the combination of spear and Palladium which she holds; the Aesculapius gives the impression of an Antonine medallion rather than a 1st century coin type, but the reason for its appearance is unknown.⁴⁸ The preceding commentary has shown the remarkable nature of this series of sestertii. Almost every type embodies some innovation in content or idiom, and the series may justly be termed medallic.

The smaller denominations, mostly asses, are far less elaborate, although most of the types are new for Galba (PLATE XXXIV to XXXV). *Aequitas* here makes the first of her many appearances on the imperial coinage, and **PAXS AVGVSTI**, with its unusual spelling, seems to be a special type. Most interesting, however, is the type of three standards mounted on prows, for this had already appeared on Galba's coinage, where it is a not uncommon type in *officina* A, and was used also by Vitellius and Vespasian.

⁴⁶ *CIL* III, 1061, *pro Salute imperii Romani*. Just as *Securitas* (and other personifications) become at this time *populi Romani* instead of *Augusti*, so *Victoria*, a result of the exercise of *imperium*, becomes *Victoria Imperi Romani*.

⁴⁷ Cf. Tac., *Hist.* IV, 54 (*ad fin.*) dated very shortly after this.

⁴⁸ Cf. Gneecchi, *I Medaglioni Romani* II, pl. 65, 6. A similar type appears under the Severi (*BMC* V, pl. 51, 7; 42, 2; 50, 7).

The precise significance of these standards is not easy to determine; the prows have not unreasonably suggested naval success, yet Galba and Vitellius had none to their credit, and the best Vespasian could claim was a victory over the Jews on the Lake of Gennesaret. Another possibility is provided by one of the legionary denarii of M. Antony, which shows standards of a similar pattern mounted on prows accompanied by the legend **CHORTIS SPECVLATORVM**.⁴⁹ Although this unit survived under the early empire as a part of the Praetorian Guard,⁵⁰ and indeed played a leading role in the murder of Galba and the transference of power to Otho,⁵¹ it is hard to believe that the standards of so small a unit should figure so prominently on the imperial coinage rather than those of the Praetorians whose loyalty was far more important. The detail in which the standards are portrayed does suggest that they are some particular standards and not merely symbolic. Moreover the fact that on some dies (e.g. P xxviii: PLATE XXXIV) the poles of the standards pass right through the prows shows that these are decorations on the standards and not the bases on which the standards were mounted. On well preserved examples of P iii⁵² a capricorn can be detected on the side of the right prow and a victory with wreath on the side of the left, again suggesting the standards of a specific unit. The legions I and II Adjutrix, formed respectively by Galba and Vespasian, are obvious possibilities, especially as the prows would then refer to the fact that they were recruited from the fleet.⁵³ If this be so, the prows must have been removed from their standards after a time since later monuments of these legions do not show this feature.⁵⁴

The chronological position of *officina* G must now be fixed. *Prima*

⁴⁹ *BMC (Rep)* III, pl. CXVI, 3.

⁵⁰ On the duties of *speculatores* see Suet., *Gaius*, XLIV, 2 and *Claudius*, XXV; on their status see Durry, *Les Cohortes Prétoriennes*, p. 108f. and Passerini, *Le Coorti Pretorie*, p. 70f.

⁵¹ Tac., *Hist.* I, 25, 27, 31, 35; II, 11; Suet., *Galba*, XVIII.

⁵² Münzhandlung Basel I, no. 313.

⁵³ On these legions see Parker, *The Roman Legions*, p. 100. The capricorn is actually found on the standards of I Adjutrix (*op. cit.*, p. 102 and 105). Vitellius has no special connexion with these two legions and the only die of this type employed on his coinage is a "carry-over" from Galba.

⁵⁴ E.g. on Trajans Column, see C. Renel, *Les Enseignes*, p. 265.

facie the issue is Galba's, whose portrait the coins carry, but an attractive and forcefully argued theory has, for reasons which will be examined, claimed that the issue is in fact posthumous and is to be attributed to Vespasian's *pietas* towards his predecessor.⁵⁵ This bold view has been widely accepted, but, where the coins themselves carry no indication that they were issued posthumously, exceptionally strong proof that they were not issued by the man whose head they bear is required. In fact the evidence does not demand the posthumous theory and the coins fall naturally into place as the final—unexpectedly curtailed—issue of Galba's reign.

Briefly the arguments for the posthumous theory are (1) that the Flavians indisputably restored Galba's honours,⁵⁶ (2) that the "posthumous" coinage shows no connexion with the rest of Galba's coinage, and (3) that the "posthumous" coinage does show close connexions with types issued by Vespasian.

Of these arguments 1 and 2 alone cannot be conclusive; restored honours need not, usually did not, include coinage, nor is there any reason why a specialised medallic coinage, as this appears in part to be, should show connexion with the everyday issues which preceded it. The onus clearly rests on 3. The use by Vespasian of similar types is not sufficient to prove the posthumous theory, for Galba's types were sufficiently remarkable to provoke imitation, whenever they were produced. What is required is clear proof of the closest connexion not only in content but also in the physical processes of production. It will be argued in the following paragraphs that no such close connexion exists; first the evidence of titulature will be examined, then the degree of connexion existing between *officina* G and Galba's other *officinae*, and finally the connexion between *officina* G and Vespasian's coinage under two headings, (a) similarity of types and (b) the evidence of die-links.

The form of titulature used by *officina* G contains two points of interest; it omits PP, and usually includes PM. The only *aes* coins which include PP are those of *officina* F (Lugdunum); these too have been thought to be posthumous, but if both groups are posthumous it is remarkable that their titulatures should not agree in this respect.

⁵⁵ NC, ser. 5, II (1922), pp. 186 ff.; cf. BMC I, pp. ccxii ff. and II, p. lviii.

⁵⁶ Tac., Hist. III, 7; IV, 20.

But though such a variation in widely separated mints, operating posthumously, might be overlooked, a similar variation within such a closely knit group as *officina* G is most unlikely; yet, though the majority of obverse dies include **PM**, a few omit this title. If this issue is posthumous such a variation is not readily understandable, for the titulature would no longer be subject to change. Nor can it be fairly argued that to contemporaries the office of *pontifex maximus* was of small importance on the grounds that it was not a constitutional power. On sestertii of Nero its inclusion is very nearly invariable;⁵⁷ Vitellius always included it on his Roman *aes*, and under Vespasian it is invariably present on all the hundreds of dies produced for sestertii during A.D. 71. From contemporary practice, then, it may be taken as certain that the office of *pontifex maximus* was highly regarded and normally recorded on sestertii. In view of the insecure position of Galba, who needed every scrap of prestige he could muster, the omission of **PM** cannot be due to indifference; the obvious explanation is that, when these dies were engraved, Galba had not yet been elected. This evidence enables these issues to be placed fairly accurately; they are complementary to the main issues, in that, while the main issues only rarely include **PM**, in *officina* G it is rarely omitted. It was precisely at the time of the inclusion of **PM** that *officinae* were being closed, to make way for this new and conspicuous, but, as it turned out, shortlived issue.

The claim of the posthumous theory that *officina* G has little connexion with Galba's other *officinae* is substantially true, though it does not go far towards proving the Vespasianic date. A few points will, however, show that the separation is not quite absolute.

1. There exists an *Æ* 2 reverse die **AEQVITAS**, P xiii, (PLATE XXXIV) which is found combined both with an obverse of the type of *officina* B (A xii)⁵⁸ and with one of *officina* G (A viii—without **PM**). P xiii was in all probability engraved originally for *officina* G and not B; for *Aequitas* does not otherwise occur as a type in *officinae* A to E, whereas she does appear again in slightly different form in G, while the unusual profile view of the female figure on P xiii is repeated

⁵⁷ The only exception is a single die upon which Nero's character as imperator is particularly stressed (*BMC* I, pl. 41, 1).

⁵⁸ See Catalogue no. 403; this confirms Cohen 8 as against *BMC* I, p. 360, note 1.

exactly on the **HISPANIA CLVNIA SVL** sestertii. This being so, the posthumous theory must say that an obverse die of *officina* B survived until A.D. 71 when it became inadvertently involved in the production of the posthumous issue. This is undoubtedly possible, since reverse dies certainly survived,⁵⁹ but it is far more economical to suppose that B and G overlapped in time as the evidence of **PM** in the obverse legends shows they did.⁶⁰

2. Münzhandlung Basel Cat. 8, no. 594 illustrates a sestertius of which the obverse is A 41 of *officina* D and the reverse P 188 of G. At Oxford there are three cast specimens of this combination. The Basel coin, which cannot now be traced, is probably also false, despite its convincing appearance in photograph. A similar combination is found with A 55 (also of D) and P 188; specimens noted have always proved false. These forgeries are mentioned because there are four reasons for thinking that they may be derived from genuine examples of these die combinations.

(1) The undoubtedly genuine **AEQVITAS** coin just discussed proves that hybrids combining dies of G with those of other *officinae*, though very rare, are not impossible.

(2) The two dies of *officina* D, A 41, 55 both have the later version of the titlature of that *officina*—**SER GALBA IMP CAES AVG.**

(3) These two dies are by the same engraver; notice the ends of the wreath ties, the two final leaves of the wreath sticking up into the air, the strongly marked eyelids and aquiline nose.

(4) Apart from E, *officina* D is the only one which ceased production before Galba became *pontifex maximus*; since G started before this (some dies omit **PM**), D is a likely *officina* to be drawn upon.

A forger working at random to produce a rare combination of dies is unlikely by chance to have picked a combination which would conform to points 2, 3 and 4.

Among minor points of connexion between G and the other *officinae* are the two types, standards on prows and Victory holding wreath, although no common dies have been observed. Moreover the new form of titlature employed in G continued the practice of giving

⁵⁹ Above p. 20 f.

⁶⁰ A further connexion between B and G is the abbreviation **CAE** found only on 4 dies of B and on A 120 of G.

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each *officina* a distinctive obverse legend. If *officina* G represented in any sense a "restoration" of Galba's coinage by Vespasian, a form of titulature already used by Galba might have been expected. Among Titus' restorations of Galba the **PAXS AVGVSTI** type was included, though with an inappropriate obverse legend.⁶¹ Titus, only ten years after Galba's death, presumably supposed he was restoring a type of Galba rather than restoring a restoration by Vespasian.

Admittedly at best the connexions between *officina* G and the other *officinae* are slender. Such as they are, they are more easily explained by a close temporal succession than by a gap of two years. If the general line of explanation followed here is correct, the whole point of *officina* G is that it was intended to replace and improve upon the other *officinae*. In such a case only the slenderest relationship with previous issues is to be expected.

The posthumous theory's claim that the types of *officina* G are closely related to the types of Vespasian can best be illustrated by a table showing the incidence of certain types under Galba, Vitellius and Vespasian.

	Galba (<i>officina</i> G)	Vitellius	Vespasian
Sestertii			
HONOS ET VIRTVS		X	X
LIBERTAS RESTITVTA		—	X
MARS VICTOR		—	X
SENATVS PIETATI AVGVSTI		—	CONCORDIA SENATVI
Dupondii and Asses			
AEQVITAS AVGVSTI		X	X
PAXS AVGVSTI		X	X
PROVIDENT		X	X
Standards on prows		X	X
SECVRITAS P ROMANI		X	X

The above table shows that the majority of these types are common to Vitellius as well as to Galba and Vespasian. Therefore the effect of transposing *officina* G to the reign of Vespasian will be that Vitellius must be credited with the first use of them at this time: though

⁶¹ *RIC* II, Titus no. 249.

most of the ideas involved were not new, the forms in which they were expressed were, for the most part, either new to the coinage, or at least were being revived after a long intermission. There is no reason why Vitellius or his advisers should not have shown initiative in this matter; what is odd is that Vespasian, who was in no hurry (since his main *aes* issues do not begin until late A.D. 70) and was therefore not compelled to make use of types already in production, should use many Vitellian types to commemorate Galba, rather than reviving some of Galba's own. A far simpler hypothesis is to suppose that the types were originated by Galba, and then were successively revived by the two emperors who claimed to be his avengers.⁶²

The posthumous theory has argued that certain types gain immensely in significance if struck under Vespasian: that the *pietas* types can refer only to the *pietas* shown by Vespasian in restoring Galba's honors and coinage, that *Victoria Imperi Romani* can mean only the final extinction of civil war and re-establishment of peace by Vespasian. These interpretations have been contested in the paragraphs already devoted to these types. The remaining similarities of type lend little support to the posthumous theory. The repetition of *Honos et Virtus* was due to special circumstances in the history of the cult. Of *Libertas restituta* there was a single die in use under Vespasian;⁶³ this may well have been originally made for *officina* G, but never used owing to Galba's premature death.⁶⁴ With the **SENATVS PIETATI AVGVSTI** type the case is similar; under Vespasian, the type is used again (engraved by the same artist), with the legend changed to **CONCORDIA SENATVI**, but there is no need to suppose that the two versions were contemporary. Finally there are five routine **Æ 2** types which are common to all three emperors; in this phenomenon there is nothing that demands that Vespasian's and Galba's issues should have been made simultaneously. Similarity of types does not strengthen the posthumous case; these resemblances

⁶² For Vitellius as avenger of Galba see Tac., *Hist.* II, 55; for the Flavians see note 56 above.

⁶³ *BMC* II, pl. 21, 1.

⁶⁴ Vespasian's die has **S C** left and right, whereas that used in *officina* G has **S C** in exergue. These two dies may be a pair like the two *adlocutio* dies which are distinguished in the same way (cf. *Concordia* types in *officinae* B and C).

4*

and repetitions are evidence of the profound effect the originality of *officina* G had upon contemporaries.

The last section of evidence to be presented and evaluated is that of the die-links between different reigns. Here it may be recalled that the onus of proving the posthumous theory was said above to fall upon the closeness of the physical connexion that could be found to exist between this group and the issues of Vespasian. It cannot be denied that there are some close resemblances between types in the two issues, but these extend usually to Vitellius as well, and the posthumous theory is not the only, or the most probable explanation of them. What help can the die links be expected to give? In a period of frequent changes of ruler, occasional suitable reverse dies might, as a matter of convenience, be carried over from one reign to another; the continued use of some Galban dies under Vespasian has already been noticed,⁶⁵ and similar examples of continuity are found also between Vitellius and Vespasian. If however the coins of *officina* G were minted side by side with issues of Vespasian, links might be expected wherever possible, in view of the rarity of most of these types and the small number of dies used. If then there are found to be links with coins of Vespasian in a high proportion of the possible cases, this would be decisive evidence in favour of the posthumous theory; if however the links are sporadic, amounting to no more than a convenient "carry-over," then the probability of the posthumous theory will be reduced.

The die-links themselves can now be enumerated and discussed by types.

Honos et Virtus

Galba has four sestertius dies of this type (P 182, 184, 185, 195), of which two (P 185, 195: PLATE XXXV) were still being used by Vitellius' moneyers.⁶⁶ Vespasian used this type in A.D. 71 only; altogether he had five dies of this type, none of which had been used previously by Galba or Vitellius.

⁶⁵ See above p. 20 f.

⁶⁶ P 185: a. in trade Seaby 1949 ex Ratto (Lugano), 8 Feb. 1928, no. 2236 (PLATE XXXV, B); b. Ryan 2326. P 195 (reading TE for ET): a. Paris 1181 (PLATE XXXV, A b. Oxford, ex Hall 1148 (with TE altered to ET in modern times).

Paxs Augusti

Galba has two as dies (P i, xvii). Vitellius and Vespasian share one further die, which was the only one of this type made for them.⁶⁷

Three standards on prow

This is a fairly common as type in *officina* A, for which at least six dies were used. None of these, however, were used in *officina* G, which has four dies of its own (P iii, iv, xii and xxviii). P iv was used again by Vitellius (apparently the only die of this type which he used) and later still by Vespasian (Pl. XXXVI);⁶⁸ the style of the obverse of Vespasian's coin recalls certain sestertius dies that were in use in the middle period of A.D. 71. P xii is likewise used by Vespasian on an as which, exceptionally, reads **VESPASIANVS** in full and has a draped bust (PLATE XXXVI, 3), features which, on the evidence of sestertius dies, belong to the early months of A.D. 71. Two other dies of this type have been noted as used by Vespasian alone.⁶⁹

Securitas P. Romani

Galba has two dies (P viii and xiv) both used for dupondii; neither is used by Vitellius.⁷⁰ P viii, however, was used by Vespasian for an as with obverse dated **PM COS II D III** (i.e. late A.D. 70)⁷¹ and later for a dupondius dated A.D. 71 (Pl. XXXVI).⁷²

These die-links do not yield decisive evidence in favour of the posthumous theory; in the cases of *Honos et Virtus* and *Paxs Augusti*

⁶⁷ Vitellius: a. Paris, Armand-Valton 863; b. Paris 5030a; c. Hall 1151 (much tooled). Vespasian: a. *BMC* II, no. 590, pl. 23, 4 (note how the die is filling up, the **S** of **PAXS** having disappeared and the **C** of **SC** making only a faint impression); b. Munich.

⁶⁸ Vitellius: a. BM., not catalogued, ex Vierordt 973 (PLATE XXXVI, 1); Vespasian: a. Paris 5140; b. Lawrence (PLATE XXXVI, 2).

⁶⁹ *BMC* II, no. 613 and Naville XVII, 1319. A minor point may be noted here; in *officina* A the eagle on the centre standard invariably faces left; on two of the "posthumous" dies it faces right, (P xii, xxviii face left) while on the two dies here noted as confined to Vespasian it faces left again. If "posthumous" Galba and Vespasian were contemporary, this variation would be odd.

⁷⁰ BM., not catalogued, ex Naville VIII (Bement), 700 is this type, but a die of very different style.

⁷¹ Kraay (Oxford), ex Ryan 2743, ex Vierordt 1023.

⁷² Cambridge (Fitzwilliam Museum), see PLATE XXXVI, 4.

the links are Galba/Vitellius or Vitellius/Vespasian and not Galba/Vespasian, which parallel production would be expected to produce. Galba/Vespasian links are, however, provided by two types, *three standards on prows* and *Securitas*; yet even these are not wholly favorable to the posthumous theory. In the case of the *three standards* one link is with a coin dated early A.D. 71, the other with one dated about May or June; *Securitas* gives one link in November or December A.D. 70, and a second probably again in May or June A.D. 71. These links cover a minimum of five months, which is far too long a period for the issue of the Galban coins; their close pattern of die-links and restricted number of dies imply a period of weeks rather than months. The conclusion must be drawn that not even all the Galba/Vespasian links can be due to the contemporary striking of the two series.

Exactly when, in the early years of Vespasian's reign, are coins in Galba's honour likely to have been issued? Two of the links point to the end of A.D. 70 and the very beginning of A.D. 71, which is politically the most likely time, for it was in A.D. 70—though before Vespasian's return to Rome—that Galba's honours were restored, and it was at this time that Vespasian had the greatest need of winning adherents from other factions. Yet the production of this substantial issue in Galba's name is unlikely at a time when Vespasian had hardly begun an *aes* issue of his own.⁷³ Two other links suggest a date towards the middle of A.D. 71, yet politically this is a most unlikely time, for the Flavian dynasty was then secure, and a prolific coinage was celebrating the Flavian achievements, reaching a climax at the time of the Jewish triumph in the middle of the year. In short, the die-links between Galba and Vespasian are best attributed to chance survivals of useful dies: they tell against the posthumous theory, in that they fail to support it at a point where they might be expected to do so. Once again the conclusion emerges that there is no place in A.D. 70 or 71 for a posthumous issue in honor of Galba.

If, then, these issues are really Galba's, their relation to the main

⁷³ Very few *aes* coins were issued for Vespasian during A.D. 70 and most of these fall late in the year. Issues of sestertii in A.D. 71 begin on a considerable scale early in the year and rise to a peak towards the middle. Issues of smaller denominations seem not to have started on a large scale until perhaps April or May.

9. June

July?

August

October

Before
22. Dec

10. Jan
15. Jan

body of his coinage must be determined. That they largely follow the main body is proved by the predominance of dies that include *pontifex maximus*, yet they also show little connexion with previous issues, the production of which was stopped at this time.

Most of Galba's main issue was struck at Rome in his absence, between the date of his acceptance of the title Augustus in Gaul and the date of his arrival in Rome; the rest of his main issue fell between his arrival and a date shortly after his election as *pontifex maximus* (certainly before 22 December). The volume of the main issue should not be overestimated, for many of the varieties are extremely rare, or even confined to one die. Vespasian in 9 months of A.D. 71 used at least 260 obverse dies for sestertii, about one a day. Galba has about 130 in his main series, from which should be deducted the 26 of *officina* A as not being an integral part of the mint of Rome. On Vespasian's rate, these 104 dies will represent about 4 months working; the time available for the main issues is almost certainly longer than this.⁷⁴ Galba in Gaul can have had little direct control over the production of these coins; the portraits would be second or third hand likenesses; the principal types were uninspired. On his arrival in Rome, Galba seems to have determined to enliven the coinage; new artists were engaged, or at least new portraits were commissioned, and a new *officina* opened, while the existing ones were closed down by degrees. The resulting sestertii were elaborate and "medallic" in character, laying great stress upon the person and activities of Galba; the smaller denominations, on the contrary, have a much more modest character, and cannot claim to be regarded as anything but a coinage for everyday use. The scarcity of these coins is due to the sudden ending of the reign, which left a number of dies in good enough condition to be worth preserving and using in the future.

⁷⁴ Figures concerning Vespasian are derived from the author's own study of his coinage which he hopes to publish subsequently.

IV CONCLUSION

Having reviewed the operations of each *officina* in some detail, something must now be said about the whole body of reverse types used in *officinae* A-E; those of G have been sufficiently discussed already.

The accompanying table shows how the reverse dies are distributed through the *officinae* by types. Dies used in more than one *officina* are counted under the parent *officina* only; variants of themes have been placed next to each other, in order to give in the last column the total representation of each theme.

	A	B	C I	C II	D	E	
<i>Libertas Publica</i>	—	6	10	6	2	21	45
<i>Libertas Augusta</i>	11	—	—	—	—	—	11
<i>SPQR ob c s</i> in wreath	2	—	6	3	29	—	40
<i>Ex SC ob c s</i> in wreath	4	—	—	1	—	—	5
<i>ROMA</i> seated	4	—	—	—	21	3	28
<i>ROMA</i> standing	4	3	5	—	—	1	13
Victory with wreath	2	4	3	5	4	4	22
Victory with Palladium	6	3	—	—	10	—	19
<i>Concord Aug</i>	—	10	—	8	—	—	18
<i>Pax Aug</i>	2	—	—	—	—	—	2
<i>Augusta</i>	2	4	—	—	—	—	6
<i>Salus Augusta</i>	—	—	2	2	—	—	4

Distribution of reverse dies in *officinae* A-E.

From these figures it can be calculated that an average batch of a hundred sestertii would be made up as follows:

<i>Libertas</i>	25 coins
<i>Corona civica</i>	20 coins
Roma	20 coins
Victory	20 coins
<i>Concordia (Pax)</i>	10 coins
<i>Augusta</i>	3 coins
<i>Salus</i>	2 coins.

The prominence of *Libertas* is not surprising, for the various movements which brought Galba to power all proclaimed as their objects the overthrow of Nero's tyranny and the restoration of liberty. That the *Libertas* type made its mark and came to be regarded as typical of Galba's issues, is perhaps shown by the fact that it was one of the only two reverse types of Galba to be restored by Titus, and the only one to be restored by Trajan. The *corona civica* and its inscription, *SPQR ob cives servatos*, had by now become a regular accession type recording the award of such a *corona* among the accession honours, but the large numbers in which it was now minted laid special emphasis upon it. Galba came of a family which had no blood-relationship with his Julio-Claudian predecessors in power; the use of the *corona civica* type was an element of that publicity which was designed to minimize the gulf between him and his predecessors and to represent him as the legitimate heir of all their powers. And there was a further meaning, for the lives of citizens were saved not only by accession without bloodshed, but also by the merciful use of the power which accession conferred. In many quarters Galba had met with opposition or with only lukewarm support, and the declaration that *clementia* remained an imperial virtue, and that *gregatim ac publice servare* was still the emperor's aim, was certainly politic.

Roma and Victory were types appropriate at almost any time, and were taken over from Nero's coinage with only minor changes. Perhaps the recent trouble in Gaul—and the fear of its recurrence—dictated this re-assertion of the unity and power of the Roman Empire. *Concordia-Pax* (the type is the same with both legends) contains both a statement of fact, that the empire was, at least outwardly,

united behind Galba, and an appeal that this should continue in the future. *Salus*, also inherited from Nero, no doubt alludes to the sound state of the empire and perhaps also to the absence of conspiracy against the emperor.

The remaining type, *Augusta*, has some puzzling features. It can portray only Livia who had been an early patroness of Galba. No doubt this is part reason for the appearance of the type, but Livia had now been dead for forty years, and surely the evocation of Divus Augustus would have been more potent. Another curious feature is the omission of the title *Diva*, which is given to Livia on Galba's gold and silver coinage. This omission may be connected with the torch which on sestertii Livia usually holds. Two torches form the reverse type of aurei and denarii issued by Claudius in honour of Antonia, with the legend *sacerdos Divi Augusti*, in which office Antonia succeeded Livia. Now, if the torch on Galba's sestertii was intended to identify Livia as *sacerdos Divi Augusti*, then the omission of *Diva* would be understandable, for it would have been hardly possible to describe her as *Diva Augusta Divi Augusti sacerdos*. The occasion of this small issue might have been the fortieth anniversary of her death in A.D. 29, coupled with Galba's personal feeling of gratitude towards her.

In conclusion it is worth asking whether the subdivisions of the mint that exist under Galba can be traced either before or after his reign. In view of the circumstances of his accession, neither he nor his advisers are likely to have had the need, or indeed the opportunity, to re-organize the mint. So far as is known, the mint was producing *aes* for Nero up to the end of his reign, and the system then existing presumably went back to the beginning of his *aes* issues in A.D. 64. His coinage is complex and some of its variations are comparable to those of Galba; the portrait may face right or left, the gentile name Claudius—sometimes present, sometimes absent—behaves very much as does Sulpicius, and *imperator* occupies several positions in the legend as on the coins of Galba. In addition, *Germanicus* and *tribunicia potestate* provide further variety in abbreviation. In these respects the *aes* coinages of Nero and Galba alike stand in clear contrast to that of Claudius, the direction of whose portrait and the form of whose legends are remarkably constant. Pending more

detailed study of the coinage of Nero, the available evidence makes it likely that the system of subdividing the mint into self-contained *officinae* was initiated in A.D. 64, after production had been interrupted for ten years, and that it was taken over by Galba from Nero essentially unchanged.

The minting of *aes*, again interrupted under Otho, was resumed by Vitellius, but, despite a longer reign than Galba's, the output of *aes* was very much less; a unit no larger than Galba's *officina* G would appear to have sufficed. After the death of Vitellius there was a gap of a whole year before the mint again produced a major *aes* issue. In this there is no trace of subdivision by *officinae*; the die-links of the sestertii of Vespasian of A.D. 71 form one unbroken sequence, and the few variations in legend are successive instead of contemporary. During A.D. 70 the *aes* mint seems to have been re-organized once again.

So far as can at present be seen, the elaborate, but perhaps uneconomical, organization of the mint into independent *officinae* was of short duration. It cannot be positively asserted that no such organization existed under the predecessors of Nero, but only that, if it did, the means of differentiating the work of each *officina* have yet to be discovered.

THE CATALOGUE OF DIES

Every die combination is distinguished by a serial number in the left hand column and each die by a number prefixed by A (anvil) for an obverse die, and by P (punch) for a reverse die; Arabic figures are used for the dies of sestertii and small Roman figures for those of the smaller denominations. Within *officinae* obverse dies are numbered in numerical sequence, though not without intermission (e.g. A 1, 4, 7, 8, 11 etc.); all combinations of every obverse die are listed together. Varieties of obverse legend and bust are denoted by numbers and letters respectively, of which a complete list is printed on p. 61f. and the relevant selection at the beginning of each *officina*. In order to determine whether a particular obverse die is included in the Catalogue, it is necessary first to identify the *officina* by means of the list of obverse legends on p. 61f.; then, reference to the plates illustrating the *officina* will enable the die number, and thus its place in the Catalogue, to be found. The actual specimen illustrated has the plate number against it in the second column.

As reverse dies may be combined with several obverse dies, and may be found in more than one *officina*, it is not possible to preserve a sequence of numbers. Once a reverse die has been located on the plates, its occurrences in the Catalogue can be found from the Index of Reverse Dies on pp. 121 ff.; similarly the reverse procedure will enable a die in the Catalogue to be located on the plates. Once again the actual specimen illustrated has the plate number quoted against it in the fifth column, devoted to reverse die numbers. Descriptions of reverse dies have been kept to the minimum necessary for identification; beyond this, only those details are noted which are subject to variation. The last column notes the other obverse dies with which a given reverse die is combined; where one of these obverse dies comes from a different *officina* from that of the reverse die, this subdivision is indicated by a letter in brackets after the die number, for example A 41 (B).

Public collections are referred to by the name of the city, followed by a catalogue number, where known. In the case of the British Museum references are normally to the published catalogues. Certain well-known private collections, now dispersed, are referred to by the name of the owner followed by the number of the coin in the sale catalogue (e.g. Ryan 2726). For further details of such catalogues and collections, see list of abbreviations above on p. ix f. Other sale catalogues are referred to by the name of the dealer, followed by the date or serial number of the sale and the number of the coin. The sign = means "the same coin" and not another specimen from the same dies.

The plates illustrate practically every die, except for a few which have been traced only in Sale Catalogues; these are listed below on p. 120. In illustrating so large a number, some poor specimens have had to be included. Obverse dies are illustrated in numerical order, by *officinae*, as in the Catalogue; reverse dies are illustrated under *officinae* by types in alphabetical order. When a reverse die is used in more than one *officina*, it is illustrated under its parent *officina* regardless of the origin of the obverse die with which the actual specimen illustrated may happen to be combined.

CATALOGUE OF DIES

	Obv. legends	Officina
i	SER GALBA IMP CAES AVG TR P	A
ii	SER GALBA IMP CAES AVG P M TR P	A
iii	IMP SER GALBA CAE AVG TR P	B
iv	IMP SER GALBA CAES AVG TR P	B
v	IMP SER GALBA CAESAR AVG TR P	B
vi	IMP SER GALBA CAES AVG P M TRP	B
vii	IMP SER GALBA CAES AVG PON M TR P	B
viii	SER GALBA IMP CAESAR AVG TR P	C
ix	SER GALBA IMP CAESAR AVG P M TR P	C
x	SER GALBA IMP CAESAR AVG PON MA TR P	C

	Obv. legends	Officina
xi	SER GALBA IMP CAESAR AVG PONT MAX TR P	C
xii	IMP SER GALBA AVGVSTVS	D
xiii	IMP SER GALBA AVG TR P	D
xiv	SER GALBA IMP CAES AVG	D
xv	SER GALBA IMP CAES AVG TR P	D
xvi	IMP SER SVLP GALBA CAES AVG TR P	E
xvii	IMP SER SVLPIC GALBA CAES AVG TR P	E
xviii	IMP SER SVLPICIVS GALBA CAESAR AVG	E
xix	SER GALBA IMP CAESAR AVG P M TR P P P	F
xx	SER SVLPI GALBA IMP CAESAR AVG TR P	G
xxi	SER SVLPI GALBA IMP CAE AVG P M TR P	G
xxii	SER SVLPI GALBA IMP CAESAR AVG P M TR P	G
xxiii	SER GALBA IMP CAESAR AVG PO MA TR P	C
xxiv	SER GALBA IMP CAESAR AVG PON M TR POT	F (Æ 2 only)
xxv	SER GALBA IMP CAESAR AVG PON M TR P P P	F (Æ 2 only)
xxvi	IMP SER GALBA CAESAR AVG P M TR P	B
	 Bust varieties	 Officina
	a. Head r. laur.	A, B, C, D, G
	b. Head r. laur., globe at point of bust	A, F, G
	c. Head r. laur., bust dr.	A, B, C, D, E, G
	d. Head l. laur.	B, C, D
	e. Head l. laur., bust dr.	D, G
	f. Head r. bare	D
	g. Head r. laur., with aegis	G
	h. Head r. bare, globe at point of bust	G
	i. Head r. bare, bust dr.	D, G
	k. Head l. laur., globe at point of bust	F

OFFICINA A

- Legends
i. SER GALBA IMP CAES AVG TR P
ii. SER GALBA IMP CAES AVG P M TR P

- Bust varieties
a. Head r. laur.
b. Head r. laur., globe at point of bust.
c. Head r. laur., bust dr.

1	A 10	I	i a	ROMA seated l., on r. 2 greaves upright. a. BMC 87. b. Vienna 5912.	P 13	A 35, 79
2	A 10		i a	ROMA seated l. a. Helbing 2 June 1929 no. 3757.	P 118	A 56 (D), 57
3	A 10		i a	ROMA stg. l., holding aquila and resting arm on trophy, R XL l. and r. a. BMC 85. b. Fitzwilliam 394. c. Paris 1142. d. Paris 1143. e. Ryan.	P 14	
4	A 10		i a	Victory carrying Palladium l. a. Münzhandlung Basel 10, no. 558 = Hess (Lucerne) 207, no. 992.	P 122	
5	A 15	I	i a	SPQR/OB/CIVSER in wreath. a. BM. (not catalogued).	P 21	

6	A 15	i a	b. Oxford (Kraay). c. Baranowsky 9 Dec. 1929, no. 494. LIBERTAS AVGVST R XL. a. Ryan 2315.	P 39	A 35
7	A 15	i a	ROMA stg. 1. holding aquila and figure of Pax, and resting arm on trophy, R XL. a. Paris 1144. b. Vienna 5897. c. Hall 1123.	P 22	A 16
8	A 16	i a	ROMA stg. 1. holding aquila and figure of Pax, and resting arm on trophy, R XL. a. <i>BMC</i> 84. b. in trade, Baldwin, April 1950. c. Capt. Smyth 66 (cast at Oxford). d. Vienna 5898.	P 22	A 15
9	A 16	i a	PAX AVGVST (in ex.) seated l. a. <i>BMC</i> 76.	P 23	A 17
10	A 16	i a	Victory carrying wreath r. a. Paris 1151. b. Cambridge (Fitzwilliam Mus.).	P 85	
11	A 17	i a	PAX AVGVST (in ex.) seated l. a. Hall 1122. b. Paris 1124.	P 23	A 16

IV

V

IV

Catalogue of Dies

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12	A 17	i a	ROMA stg. l. holding aquila and figure of Pax, and leaning on trophy. a. Oxford. b. Vienna 5899.	P 24	A 18, 67
13	A 17	i a	LIBERT AVG a. Oxford (Kraay), ex Lawrence	P 114	
14	A 18	i a	ROMA stg. l. holding aquila and figure of Pax, and leaning on trophy. a. BMC 83.	P 24	A 17, 67
		I		IV	
15	A 26	i a	LIBERT AVG R XL a. Oxford (Kraay), ex Lawrence.	P 34	A 27, 31, 134
16	A 27	i b	LIBERT AVG R XL a. BMC 66. b. Hirsch XVIII, no. 628. c. Vienna 5863.	P 34	A 26, 31, 134
17	A 27	i b	LIBERT AVG a. BMC 65.	P 35	A 28
18	A 27	i b	SPQR/OB/CIVSER in wreath. a. Oxford.	P 115	
19	A 27	i b	LIBERT AVG a. in trade, Münz. und Med. Basel, Nov. 1950. b. Naville II, no. 384.	P 128	A 85, 138

20	A 27	I	i b	Victory carrying Palladium l. a. Hall 1124.	P 116	V	
21	A 27		i b	Victory carrying Palladium l. a. Vienna 5952.	P 83		A 31
22	A 28	I	i a	LIBERT AVG a. Oxford.	P 35		A 27
23	A 28		i a	ROMA seated l. on arms. a. Capt. Smyth (cast at Oxford). b. Vienna 5913.	P 36		A 29, 30
24	A 28		i a	SPQR/OB/CIVSER in wreath. a. Oxford, ex Lawrence.	P 74		A 23 (D), 30, 36 (D), 46 (D)
25	A 29	I	i c	ROMA seated l. on arms. a. BMC 97.	P 36	IV	A 28, 30
26	A 30	I	i a	ROMA seated l. on arms. a. Oxford.	P 36		A 28, 29
27	A 30		i a	SPQR/OB/CIVSER in wreath. a. Vienna 5921.	P 74		A 23 (D), 28, 36 (D), 46 (D)
28	A 30		i a	PAX AVG (in ex.) seated l. a. Paris 1122,	P 80		A 131

29	A 31	i a	LIBERT AVG a. Vienna 5862.	P 202	III	
30	A 31	i a	LIBERT AVG R XL a. Oxford. b. <i>Rivista Italiana</i> V (1892), pl. I, 2.	P 34	III	A 26, 27, 134
31	A 31 I	i a	Victory carrying Palladium I. a. Paris 1157.	P 83	V	A 27
32	A 31	i a	SPQR/OB/CIVSER in wreath. a. Paris 1169.	P 84	XXIII	A 47(D), 56(D), 78(D)
33	A 35	i a	EXSC/OBCIVES/SER in wreath. a. BMC 62.	P 73	III	A 73
34	A 35	i a	LIBERTAS AVGVST R XL a. Hall 1117.	P 39	IV	A 15
35	A 35	i a	ROMA stg. 1. holding Victory and spear. a. Ryan 2317.	P 101		A 73, 85, 136
36	A 35	i a	AVGVSTA (in ex.), R XL. Livia seated I. a. <i>Rivista Italiana</i> IV (1891), pl. XVIa, 2.	P 72		
37	A 35 I	i a	LIBERT AVG a. Paris 1113.	P 78	III	

38	A 35	i a	Victory carrying palladium l. a. Ciani 7 April 1930, no. 105(b).	P 112	A 79
39	A 35	i a	ROMA seated l., to r. 2 greaves. a. Vienna 5911.	P 13	A 10, 79
40	A 57	i a	LIBERTAS AVGVSTA. a. Hall 1118. b. Ratto (Milan) 20 April 1914, no. 55. c. Zurich.	P 70	
		II		IV	
41	A 57	i a	SPQR/OB/CIVSER in wreath. a. Hamburger VII, no. 1101.	P 130	A 41(D), 48(D), 78(D)
42	A 57	i a	EXSC/OB/CIVES/SER in wreath. a. Hirsch XXXIII, no. 1162.	P 71	
43	A 57	i a	ROMA seated l., small shield. a. Oxford (Kraay).	P 118	A 10, 56(D)
44	A 67	i a	ROMA stg. l., holding aquila and figure of Pax, and leaning arm on trophy. a. Paris 1135.	P 24	A 17, 18
		II		XXI	
45	A 73	ii a	ROMA stg. l., holding Victory and spear. a. Paris 1139. b. BMC 78.	P 101	A 35, 85, 136
				IV	

46	A 73	ii a	AVGVSTA (in ex.). Livia seated l. a. Paris 1094. b. Paris 1095.	P 102	III	
47	A 73	ii a	LIBERTAS AVGVSTA a. Paris 1114.	P 103	IV	
48	A 73	ii a	EXSC/OB/CIVES/SER in wreath. a. Hess (Lucerne) 18 Dec. 1933, no. 421 = Santamaria 24 Jan. 1938, no. 352.	P 108		
49	A 73	ii a	EXSC/OB/CIVES/SER in wreath. a. Helbing 70, no. 35.	P 73		A 35
50	A 73	ii a	EXSC/OB/CIVES/SER in wreath. a. Magnaguti II, no. 558.	P 214		A 142
51	A 79	i a	EXSC/OB/CIVES/SER in wreath. a. Vienna 5848.	P 198	III	
52	A 79	i a	Victory carrying Palladium l. a. BMC 104.	P 112	V	A 35
53	A 79	i a	Victory carrying wreath r. a. Oxford, ex Lawrence.	P 113	V	
54	A 79	i a	ROMA seated l., on r. 2 greaves upright. a. Oxford (Kraay), ex Lawrence. a. Egger XLIII, no. 510.	P 13		A 10, 35

55	A 79	i a	a. ANS Victory carrying Palladium l.	P 226	A 85
56	A 80	i a	ROMA seated l. a. Münzhandlung Basel 10, no. 557 = Hess (Lucerne) 207, no. 991.	P 66	A 55(D)
57	A 80	i a	ROMA seated l. a. Cambridge (Fitzwilliam Mus.). b. Naville XVI, no. 1447.	P 119	A 54(D)
58	A 81	i a	ROMA seated l., 2 greaves diagonally on r. a. Oxford, ex Lawrence.	P 64	A 35, 73, 136
59	A 85	i a	ROMA standing l., holding Victory and spear. a. Münz. und Med. Basel VI, no. 795	P 101	A 27, 138
60	A 85	i a	LIBERT AVG a. Cambridge (Fitzwilliam Mus.). b. Oxford (Kraay), ex Lawrence. c. Platt 26 June 1922, no. 216.	P 128	A 79
61	A 85	i a	Victory carrying Palladium l. a. Zurich.	P 226	

62	A 131 II	i a	PAX AVG (in ex.) seated l. a. Vienna = Bachofen von Echt no. 877.	P 80	IV	A 30
63	A 134 II	i c	LIBERT AVG R XL a. Niggeler (Baden).	P 34		A 26, 27, 31
64	A 135 II	ii a	LIBERTAS AVGVSTA a. Vienna.	P 206	IV	
65	A 136 II	i a	ROMA stg. l., holding Victory and spear. a. Vienna.	P 101		A 35, 73, 85
66	A 138 II	i a	Victory carrying Palladium l. a. Munich.	P 209	V	
67	A 138	i a	LIBERT AVG a. Münzhandlung Basel 3, no. 205.	P 128		A 27, 85
68	A 142 III	i a	EXSC/OB/CIVES/SER in wreath. a. Ryan 2309 = Santamaria, 16 Jan. 1924, no. 145.	P 214	III	A 73
69	A 143 III	i a	LIBERT AVG a. Ryan 2314.	P 216	IV	

OFFICINA B

- Legends
- iii. IMP SER GALBA CAE AVG TR P
 - iv. IMP SER GALBA CAES AVG TR P
 - v. IMP SER GALBA CAESAR AVG TR P
 - vi. IMP SER GALBA CAES AVG P M TR P
 - vii. IMP SER GALBA CAES AVG PON M TR P
 - xxvi. IMP SER GALBA CAESAR AVG P M TR P

Bust varieties a. Head r., laur.

c. Head r., laur., bust dr.

d. Head l., laur.

NB. The wreath is laurel unless otherwise noted in the Catalogue.

70	A I	VI	iv c	CONCORD AVG S/C a. Oxford. b. Vienna 5846.	P I	VII	A 3, 62
71	A I		iv c	Victory carrying Palladium l. a. BMC 107. b. Paris 1159. c. Schulman 5 March 1923 (Vierordt), no. 943.	P 2		A 2, 3
72	A I		iv c	CONCORD AVG S/C a. Münzhandlung Basel I, no. 282.	P II		A 4, 8, 62
73	A I		iv c	Victory carrying Palladium l. a. Naville II, no. 394 = Münz. und Med. Basel VI, no. 796. b. Ratto (Lugano) 8 Feb. 1928, no. 2213.	P 105		A 74

74	A 1	iv c	CONCORD AVG S/C a. Paris 1099.	P 89	VIII	
75	A 1	iv c	Victory carrying wreath r. a. Paris 1148.	P 141	IX	
76	A 2	iii c (oak)	Victory carrying Palladium l. a. BMC 106.	P 2	IX	A 1, 3
77	A 2	iii c (oak)	LIBERTAS PVBLICA a. Paris 1115.	P 98	VIII	
78	A 2	iii c (oak)	AVGVSTA (in ex.). Livia seated l. a. Santamaria 16 Jan. 1924, no. 144. b. Vienna 5836. c. Ryan.	P 107		A 7, 75, 76
79	A 3	iv a	CONCORD AVG S/C a. Munich	P 1		A 1, 62
80	A 3	iv a	Victory carrying Palladium l. a. BM. (not catalogued).	P 2		A 1, 2
81	A 3	iv a	CONCORD AVG S/C a. BMC 58. b. Münzhandlung Basel 1, no. 283. c. Ryan 2307.	P 4	VIII	

82	A 3	iv a	CONCORD AVG S/C a. Naville II, no. 379. b. Paris 1096.	P 5	A 4
83	A 3	iv a	AVGVSTA (in ex.). Livia seated l. a. Paris 1095 (a).	P 79	A 8
84	A 4	iv a	CONCORD AVG S/C a. Hall III3. b. Oxford, ex Lawrence.	P 5	A 3
85	A 4	iv a	LIBERTAS PVBLICA a. Paris (Armand-Valton).	P 96	
86	A 4	iv a	AVGVSTA (in ex.). Livia seated l. a. Cambridge (Fitzwilliam Mus.).	P 30	A 22, 90
87	A 4	iv a	CONCORD AVG S/C a. Vienna 5847.	P 11	A 1, 8, 62
88	A 6	v a	CONCORD AVG S/C a. BMC 61.	P 9	A 7, 68
89	A 6	v a	CONCORD AVG S/C a. Paris 1097. b. Oxford (Kraay). c. Munich.	P 97	

90	A 6	v a	Victory carrying Palladium l. a. Santamaria 16 Jan. 1924, no. 154.	P 132	A 88
91	A 7 VI	vii a	CONCORD AVG S/C a. Hall 1113. b. Paris 1100.	P 9	A 6, 68 VIII
92	A 7	vii a	ROMA stg. l. a. BMC 82. b. in trade, Baldwin, April 1950. c. Cahn 65, no. 450. d. Zurich. e. Vienna 5902.	P 10	IX
93	A 7	vii a	LIBERTAS PVBLICA a. Cambridge (Fitzwilliam Mus.).	P 129	VIII
94	A 7	vii a	AVGVSTA (in ex.). Livia seated l. a. Vienna 5835.	P 107	A 2, 75, 76
95	A 8	iv c	CONCORD AVG S/C a. BMC 60.	P 11	A 1, 4, 62
96	A 8	iv c	ROMA stg. l. a. Hall 1123. b. Cahn 68, no. 271. c. Vienna 5903.	P 12	A 9 IX

96	A 8	<i>d.</i> Munich. <i>e.</i> Ryan 2317. <i>f.</i> ANS.	P 12		
97	A 8	iv c AVGUSTA (in ex.). Livia seated l. <i>a.</i> Cambridge (Corpus Christi). <i>b.</i> Cahn 65, no. 449. <i>c.</i> Zurich.	P 79	VII	A 3
98	A 9	vi a ROMA stg. l. <i>a.</i> BMC 81. <i>b.</i> Munich.	P 12		A 8
99	A 22	iii d (oak) CONCORD AVG S/C <i>a.</i> BMC 57. <i>b.</i> Paris 1101.	P 28	VIII	
100	A 22	iii d (oak) AVGUSTA (in ex.). Livia seated l. <i>a.</i> BMC 54.	P 29	VII	A 62
101	A 22	iii d (oak) AVGUSTA (in ex.). Livia seated l. <i>a.</i> Oxford (Kraay) ex Hall 1112.	P 30	VII	A 4, 90
102	A 62	iii d CONCORD AVG S/C <i>a.</i> Paris 1102. <i>b.</i> Oxford (Kraay) ex Lawrence. <i>c.</i> Zurich.	P 11	VIII	A 1, 4, 8

103	A 62	iii d a. Oxford.	CONCORD AVG S/C	P 94	VIII	
104	A 62	iii d a. Oxford (Kraay) ex Lawrence.	CONCORD AVG S/C	P 1		A 1, 3
105	A 62	iii d a. Vienna.	AVGVSTA (in ex.). Livia seated l.	P 29		A 22
106	A 62	iii d a. ANS.	CONCORD AVG S/C	P 227	VIII	
107	A 68 VI	v c a. Paris 1098.	CONCORD AVG S/C	P 9		A 6, 7
108	A 74 VI	iv a a. Paris 1160.	Victory carrying Palladium l.	P 105	IX	A 1
109	A 74	iv a a. Oxford.	Victory carrying wreath r.	P 106	IX	
110	A 75 VII	iv a a. Oxford.	AVGVSTA (in ex.). Livia seated l.	P 107	VII	A 2, 7, 76
111	A 76 VII	iii a (oak) a. Paris 1093.	AVGVSTA (in ex.). Livia seated l.	P 107		A 2, 7, 75

112	A 87	VII	vi a	ROMA stg. l. a. Oxford (Kraay).	P 131	IX	
113	A 88	VII	vi c	Victory carrying Palladium l. a. Paris 1162.	P 132	X	A 6
114	A 89		v a	Victory carrying wreath r. a. Vienna 5948.	P 133		A 90
115	A 89	VII	v a	LIBERTAS PVBLICA a. BMC 75. b. Oxford.	P 142	IX	
116	A 90	VII	v a	Victory carrying wreath r. a. Paris 1156(a).	P 133	IX	A 89
117	A 90		v a	LIBERTAS PVBLICA a. Oxford.	P 134	IX	
118	A 90		v a	AVGVSTA (in ex.). Livia seated l. a. in trade, Münz. und Med. Basel.	P 30		A 4, 22
119	A 90		v a	LIBERTAS PVBLICA a. Vienna 5870. b. Hirsch XXXIV, no. 984.	P 200	IX	
120	A 139	VII	xxvi a	Victory carrying wreath l. a. Vienna. b. Naville XII, no. 2789.	P 210	IX	

OFFICINA C

- Legends
- viii. SER GALBA IMP CAESAR AVG TR P
 - ix. SER GALBA IMP CAESAR AVG P M TR P
 - x. SER GALBA IMP CAESAR AVG PON MA TR P
 - xi. SER GALBA IMP CAESAR AVG PONT MAX TR P
 - xxiii. SER GALBA IMP CAESAR AVG PO MA TR P

Bust varieties

- a. Head r. laur.
- c. Head r. laur., bust dr.
- d. Head l. laur.

121	A 5	viii a a. Oxford.	CONCORD AVG, SC (in ex.)	P 6	XV	
122	A 5	viii a a. Oxford. b. Cambridge (Fitzwilliam Mus.). c. Paris 1103.	CONCORD AVG, SC (in ex.)	P 7	XV	
123	A 5	viii a a. Oxford.	Victory carrying wreath r.	P 8	XVI	
124	A 5	viii a a. Cahn 80, no. 614.	SPQR/O-B/CIVES/SERVATOS in wreath.	P 15		A 11, 12, 58
125	A 5	viii a a. Paris 1146.	SALVS AVGVSTA	P 88	XVI	

126	A 5	viii a	CONCORD AVG, SC (in ex) <i>a.</i> in trade, Seaby, August, 1950.	P 146	XVI	
127	A 11	xi a	SPQR/O-B/CIVES/SERVATOS <i>a.</i> Oxford.	P 15		A 5, 12, 58
128	A 11	xi a	LIBERTAS PVBLICA <i>a.</i> Munich.	P 211	XII	
129	A 12	viii d	SPQR/O-B/CIVES/SERVATOS <i>a.</i> Oxford (Kraay).	P 15		A 5, 11, 58
130	A 21	viii d	Victory carrying wreath r. <i>a.</i> BMC 99. <i>b.</i> Paris 1153.	P 26		A 60
131	A 21	viii d	SPQR/O-B/CIVSER in wreath. <i>a.</i> Oxford. <i>b.</i> Paris 1171.	P 27	XVII XIII	A 94
132	A 21	viii d	EXSC/OB/CIVES/SERVATOS <i>a.</i> Paris 1106. <i>b.</i> Vienna 5849.	P 81		A 38, 60, 61
133	A 21	viii d	CONCORD AVG, SC (in ex.) <i>a.</i> Vienna 5844.	P 127		A 84
134	A 24	viii a	Victory carrying wreath l.	P 32		A 25, 152(E), 133

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135	A 24	X	viii a	a. Oxford (Kraay). b. Cambridge (Fitzwilliam Mus.). c. Paris 1163.	P 90	XIII	
136	A 24		viii a	a. Victory carrying wreath r. Paris 1152.	P 197	XII	
137	A 25	X	viii c	a. Naville XIII, no. 1182 = Hess (Frankfurt) Dec. 1913, no. 319. b. Cambridge (Fitzwilliam Mus.).	P 32	XIII	A 24, 152(E), 133
138	A 25		viii c	a. Victory carrying wreath l. BMC 108.	P 33	XII	Used Vesp., see Chapt. II, note 28
139	A 32	XIV	viii d	a. ROMA stg. l. BMC 80.	P 109	XV	A 59, 60
140	A 32		viii d	a. CONCORD AVG, SC (in ex.) Oxford. b. BMC 55. c. Baranowsky 25 Feb. 1931, no. 1499.	P 110	XV	Used Vitellius (BMC I, no. 48)
				a. Hall 1114. b. in trade, Baldwin, April, 1950.			

141	A 32	viii d a. Oxford. b. Paris 1104.	CONCORD AVG, SC (in ex.)	P 37	A 59
142	A 34	viii c a. Hall 1125. b. Paris 1150.	Victory carrying wreath r.	P 38	A 33(E)
143	A 34	viii c a. Paris 1120.	LIBERTAS PVBLICA	P 87	XIII
144	A 37	viii a a. Hall 1118.	LIBERTAS PVBLICA	P 45	XI
145	A 37	viii a a. Hall 1131 = Schulman 5 March 1923 (Vierordt), no. 948.	SPQR/OB/CIVES/SERVATOS in wreath.	P 143	XVI
146	A 38	viii d a. Oxford.	LIBERTAS PVBLICA	P 45	A 37, 130
147	A 38	viii d a. Ryan 2316 = Münzhandlung Basel 3, no. 206.	LIBERTAS PVBLICA	P 212	XVI
148	A 38	viii d a. Paris 1105.	EXSC/OB/CIVES/SERVATOS in wreath.	P 81	A 21, 60, 61

No	A	viii a	SALVS AVGVSTA	P	Used Vesp., see Chapt. II, note 29
149	A 44			P 61	
		X			
150	A 44	viii a	a. <i>BMC</i> 119. ROMA stg. 1.	P 62	XIII
			a. <i>BMC</i> 79.		XII
151	A 51	viii c	LIBERTAS PVBLICA a. Messenger. b. Bonn.	P 59	XI
152	A 51	viii c	SPQR/OB/CIVSER in wreath. a. Oxford. b. Cahn 75, no. 993. c. Oxford (Kraay), ex Fitzwilliam 395.	P 60	A 52, 53, 69, 70, 96
		X			
153	A 51	viii c	ROMA stg. 1. a. Paris 1136. b. Santamaria 4 June 1951, no. 1210.	P 91	XII
154	A 51	viii c	ROMA stg. 1. a. in trade, Baldwin, April 1950.	P 63	A 52, 66, 70
155	A 52	viii a	SPQR/OB/CIVSER in wreath. a. Oxford. b. Paris (Armand-Valton 851).	P 60	A 51, 53, 69, 70, 96
156	A 52	viii a	ROMA stg. 1. a. Hall 1123.	P 63	A 51, 66, 70
		X			

157	A 53	viii a	SPQR/OB/CIVSER in wreath.	P 60	A 51, 52, 69, 70, 96	84
	X					
158	A 58	viii a	a. Oxford. SPQR/O-B/CIVES/SERVATOS in wreath.	P 15	A 5, 11, 12	
	XIV					
159	A 58	viii a	a. Paris 1175. Victory carrying wreath r.	P 76	A 59, 60, 98	
			a. BMC 98.			
160	A 59	x a	Victory carrying wreath r.	P 76	A 58, 60, 98	
			a. Paris 1156.			
161	A 59	x a	CONCORD AVG, SC (in ex.)	P 37	A 32	
			a. Ryan 2307.			
162	A 59	x a	CONCORD AVG, SC (in ex.)	P 109	A 32, 60	
	XIV					
163	A 60	viii a	EXSC/OB/CIVES/SERVATOS in wreath.	P 81	A 21, 38, 61	
	XIV					
164	A 60	viii a	Victory carrying wreath r.	P 26	A 21	
			a. Münzhaltung Basel 3, no. 211 = Santamaria 24 Jan. 1938, no. 356. b. ANS.			
165	A 60	viii a	Victory carrying wreath r.	P 76	A 58, 59, 98	
			a. Naville XV, no. 1449.			

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166	A 60	viii a a. Vienna.	CONCORD AVG, SC (in ex.)	P 109	A 32, 59
167	A 61	viii a EXSC/OB/CIVES/SERVATOS in wreath. a. BMC 63.		P 81	A 21, 38, 60
168	A 61	viii a LIBERTAS PVBLICA a. Paris (Armand-Valton 848).		P 82	A 98
169	A 61	viii a LIBERTAS PVBLICA a. Ciani 2 June 1920, no. 351.		P 144	
170	A 66	viii d ROMA stg. 1. a. Paris 1138.		P 63	A 51, 52, 70
171	A 69	viii a SPQR/O-B/CIVSER in wreath. a. Paris 1170.		P 60	A 51, 52, 53, 70, 96
172	A 70	viii c SPQR/O-B/CIVSER in wreath. a. Paris 1167.		P 60	A 51, 52, 53, 69, 96
173	A 70	viii c ROMA stg. 1. a. Hirsch XXX, no. 918.		P 63	A 51, 52, 66
174	A 70	viii c SPQR/O-B/CIVSER in wreath. a. ANS.		P 205	A133, A151(E)
175	A 71	ix a CONCORD AVG, SC (in ex.) a. Oxford (Kraay). b. Vienna.		P 100	A 72

176	A 72	XIV	ix d	CONCORD AVG, SC (in ex.) a. Paris 1123.	P 100	XV	A 71
177	A 83		viii a	ROMA stg. 1. a. Paris 1137.	P 3	XII	
178	A 83		viii a	SPQR/OB/CIVSER in wreath. a. Schulman 31 May 1927, no. 665. b. Vienna.	P 125 (from a sestertius of Vespasian at Oxford).	XIII	Used Vesp., see Chapt. II, note 30
179	A 83		viii a	LIBERTAS PVBLICA a. Vienna.	P 139		A 95
180	A 83	X	viii a	LIBERTAS PVBLICA a. in trade, Münz. und Med. Basel, Nov. 1950.	P 225	XII	
181	A 84	XIV	viii d	LIBERTAS PVBLICA a. Paris 1119.	P 126	XI	
182	A 84		viii d	CONCORD AVG, SC (in ex.) a. Cambridge (Fitzwilliam Mus.). b. Ryan 2308 = Naville II, no. 380.	P 127	XV	A 21
183	A 91	XI	viii c	LIBERTAS PVBLICA a. BMC 70.	P 135	XI	

184	A 92	XI	viii c	LIBERTAS PVBLICA a. Cambridge (Corpus Christi).	P 136	XII	
185	A 93	XI	viii a	SALVS AVGVSTA a. Fitzwilliam 394.	P 137	XIII	
186	A 94	XI	viii c	SPQR/O-B/CIVSER in wreath. a. Hall = Santamaria 7 March 1910, no. 1167. b. Ratto (Milan) 13 May 1912, no. 1415 = Ratto (Milan) 4 June 1913, no. 261.	P 138	XIII	
187	A 94		viii c	SPQR/O-B/CIVSER in wreath. a. Oxford. b. Rosenberg 72, no. 949.	P 27		A 21
188	A 95	XI	viii a	LIBERTAS PVBLICA a. Hall 1118.	P 139	XII	A 83
189	A 95		viii a	LIBERTAS PVBLICA a. Oxford. b. ANS.	P 140	XII	
190	A 96	XI	viii c	SPQR/OB/CIVSER in wreath. a. Lawrence.	P 60		A 51, 52, 53, 69, 70
191	A 97	XV	viii d	LIBERTAS PVBLICA a. Hall 1120	P 145	XVI	
192	A 98	XV	viii a	Victory carrying wreath r. a. in trade, Spink, Oct. 1950.	P 76	XVII	A 58, 59, 60

193	A 98	viii a	LIBERTAS PVBLICA <i>a. Hirsch XXX, no. 916.</i>	P 82	A 61
194	A 99	ix d	SALVS AVGVSTA <i>a. Paris 1147</i>	P 147	XVI
195	A 99	ix d	Victory carrying wreath r. <i>a. Paris 1154.</i>	P 148	XVII
196	A 99	ix d	Victory carrying wreath r. <i>a. Schulman 5 March 1923 (Vierordt), no. 942.</i>	P 149	
197	A 130	xxiii a	LIBERTAS PVBLICA <i>a. Zurich.</i>	P 45	A 37, 38
198	A 133	viii c	Victory carrying wreath l. <i>a. Niggeler (Baden), ex Fitzwilliam 44.</i>	P 32	A 24, 25, 152(E)
199	A 133	viii c	SPQR/O-B/CIVSER in wreath. <i>a. Reichmann XX, no. 519.</i>	P 205	A 151(E), A 70
200	A 148	viii c	LIBERTAS PVBLICA <i>a. Vienna. b. Ratto (Lugano) 8 Feb. 1928, no. 2196.</i>	P 222	XII
201	A 148	viii c	SPQR/OB/CIVSER in wreath. <i>a. Santamaria 16 Jan. 1924, no. 156.</i>	P 224	
202	A 149	ix a	SPQR/O-B/CIVES/SERVATOS in wreath. <i>a. Ryan 2330.</i>	P 223	XVI
					XV

OFFICINA D

- Legends xii. IMP SER GALBA AVGVSTVS
 xiii. IMP SER GALBA AVG TR P
 xiv. SER GALBA IMP CAES AVG
 xv. SER GALBA IMP CAES AVG TR P

- Bust varieties a. Head r. laur.
 c. Head r. laur., bust dr.
 d. Head l. laur.
 e. Head l. laur., bust dr.
 f. Head r. bare.
 i. Head r. bare, bust dr.

NB. The wreath is laurel unless otherwise noted in the Catalogue.

203	A 13	xiii c (oak) Victory stg. l. holding wreath (much tooled). a. Oxford.	P 16	XXIV	
204	A 13	xiii c (oak) ROMA seated l., on shield wolf and twins (tooled); to r., one greave. a. Hall 1122. b. Schulman 5 March 1923 (Vierordt), no, 937. c. Vienna 5907.	P 17	XX	A 36
205	A 13	xiii c (oak) ROMA seated l., shield resting on helmet. a. BMC 94.	P 18		A 40, 63

206	A 13	xiii c (oak) ROMA seated l., Victory on shield. a. <i>BMC</i> 93. b. Messenger. c. Schulman 5 March 1923 (Vierordt), no. 938. d. Cambridge (Fitzwilliam Mus.).	P 19	XX	A 14
	XVII				
207	A 13	xiii c (oak) SPQR/OB/CIVSER in wreath. a. Vienna.	P 203	XXIII	A 101
208	A 13	xiii c (oak) SPQR/OB/CIVSER in wreath. a. Oxford (Kraay), ex Lawrence.	P 55		A 49
209	A 13	xiii c (oak) Victory carrying Palladium l. a. Oxford (Kraay), ex Lawrence.	P 124	XXIV	
210	A 13	xiii c (oak) SPQR/OB/CIVSER in wreath. a. Dupriez 115, no. 161.	P 157		A 132
211	A 14	xiii c (oak) ROMA seated l.; Victory on shield. a. Oxford (Kraay).	P 19		A 13
212	A 14	xiii c (oak) SPQR/OB/CIVSER in wreath. a. <i>BMC</i> 116.	P 20	XXII	
213	A 23	xv c SPQR/OB/CIVSER in wreath. a. Oxford.	P 31	XXII	Used Vitellius, see Chapt. II, note 35.
	XVII				

214	A 23	xv c	SPQR/OB/CIVSER in wreath. a. Cambridge (Fitzwilliam Mus.).	P 74	A 28(A), 30(A), 36, 46
215	A 36	xiii a (oak) a. Paris 1174.	SPQR/OB/CIVSER in wreath.	P 74	A 23, 28(A), 30(A), 46
216	A 36	xiii a (oak) a. Oxford, ex Fitzwilliam 395 b. Santamaria 16 Jan. 1924, no. 158.	SPQR/OB/CIVSER in wreath.	P 40	XXII
217	A 36	xiii a (oak) a. Santamaria 16 Jan. 1924, no. 159.	SPQR/OB/CIVSER in wreath.	P 41	XXII
218	A 36	xiii a (oak) a. Oxford.	ROMA seated l.	P 42	XX
219	A 36	xiii a (oak) a. BMC 92. b. Paris 1133.	ROMA seated l., to r., one greave,	P 43	XX
220	A 36	xiii a (oak) a. BMC 102. b. Naville XVI, no. 1605. c. Vienna 5949.	Victory carrying wreath r.	P 44	XXIV
221	A 36	xiii a (oak) a. Paris 1161.	Victory carrying Palladium l.	P 75	XXIV
222	A 36	xiii a (oak) a. Oxford (Kraay), ex Lawrence.	Victory carrying wreath r.	P 123	XXIV

223	A 36	xiii a (oak) ROMA seated l. a. Vienna 5908.	P 68	A 56
224	A 36	xiii a (oak) ROMA seated l.; to r., one greave. a. ANS.	P 17	A 13
225	A 40	xiii c (oak) SPQR/OB/CIVSER in wreath. a. BMC 115.	P 48	A 41
226	A 40	xiii c (oak) SPQR/OB/CIVSER in wreath. a. Hirsch XXIV (Weber), no. 1102.	P 158	
227	A 40	xiii c (oak) SPQR/OB/CIVSER in wreath. a. Paris (Armand-Valton 850). b. Ratto (Lugano) 8 Feb. 1928, no. 2219.	P 92	XXIII
228	A 40	xiii c (oak) SPQR/OB/CIVSER in wreath. a. Niggeler (Baden) = Naville XIV, no. 1183 = Ratto (Milan) 20 April 1914, no. 60.	P 51	A 46, 47, 65
229	A 40	xiii c (oak) ROMA seated l.; shield rests on helmet. a. Oxford (Kraay), ex Lawrence.	P 18	A 13, 63
230	A 41	xiv c SPQR/OB/CIVSER in wreath. a. Oxford, ex Fitzwilliam 395.	P 48	A 40
231	A 41	xiv c SPQR/OB/CIVSER in wreath. a. Oxford (Kraay), ex Lawrence.	P 95	A 56, 150
232	A 41	xiv c SPQR/OB/CIVSER in wreath. a. Cambridge (Fitzwilliam, Mus.).	P 130	A 48, 57(A), 78
				XXIII

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233	A 42	XVII	xiv d a. BMC 110.	SPQR/OB/CIVSER in wreath.	P 49	A 43, 63
234	A 43		xiv c a. BMC 109.	SPQR/OB/CIVSER in wreath.	P 49	A 42, 63
235	A 43	XVII	xiv c a. Paris 1168.	SPQR/OB/CIVSER in wreath.	P 77	XXII XXIII
236	A 45	XVIII	xii c (oak) a. BMC 118. b. <i>Rivista Italiana</i> IV, pl. XVIa, 3. c. Ryan 2319.	SPQR/OB/CIVSER in wreath.	P 50	A 63, 77
237	A 46	XVIII	xv c a. BMC 112. b. Hall. c. Naville XV, no. 1451. d. Hirsch XXXI, no. 1159.	SPQR/OB/CIVSER in wreath.	P 51	A 40, 47, 65
238	A 46		xv c a. Vienna.	ROMA seated l.	P 201	XXII
239	A 46		xv c a. in trade, Baldwin, April, 1950.	SPQR/OB/CIVSER in wreath.	P 74	A 23, 28(A), 30(A), 36
240	A 47		xv a a. Baranowsky 25 Feb. 1931, no. 1509 = Ratto (Lugano) 8 Feb. 1928, no. 2217.	SPQR/OB/CIVSER in wreath.	P 84	A 31(A), 56, 78

241	A 47	XVIII	xv a	SPQR/OB/CIVSER in wreath. a. BMC III.	P 51	A 40, 46, 65	94
242	A 48	XVIII	xv c	Victory carrying Palladium I. a. BMC 105.	P 52		
243	A 48		xv c	ROMA seated I. a. BMC 89. b. Santamaria 4 June 1952, no. 1208.	P 53	XXIV XX	
244	A 48		xv c	Victory carrying Palladium I. a. Paris 1158.	P 93	XXIV	
245	A 48		xv c	SPQR/OB/CIVSER in wreath. a. Naville XV, no. 1452.	P 130	A 41, 57(A), 78	
246	A 49		xiii c	SPQR/OB/CIVSER in wreath. a. BMC 117. b. Munich.	P 54	XXII	
247	A 49	XVIII	xiii c	SPQR/OB/CIVSER in wreath. a. Oxford.	P 55	A 13	
248	A 49		xiii c	SPQR/OB/CIVSER in wreath. a. Santamaria 16 Jan. 1924, no., 157.	P 56		
249	A 50	XVIII	xiii c	LIBERTAS PVBLICA a. BMC 73.	P 57	XX	
250	A 50		xiii c	LIBERTAS PVBLICA a. BM. (Not catalogued). b. Vienna.	P 58	XX	

251	A 54	xv a	ROMA seated l., to r., 2 greaves and bow. a. Oxford (Kraay), ex Hall 1122. b. Fitzwilliam 394. c. Munich. d. ANS.	P 64	XX	A 81(A)
252	A 54	xv a	ROMA seated l. a. Hess (Lucerne) 7 March 1935, no. 464.	P 104		A 55, 78
253	A 54	xv a	ROMA seated l. a. BMC 96 (spear altered by tooling into caduceus). b. Paris 1127.	P 65		A 82
254	A 54	xv a	ROMA seated l. a. Oxford, ex Lawrence.	P 120	XXI	A 55, 78
255	A 55	xiv c	ROMA seated l. a. Vienna.	P 120	XXI	A 54, 78
256	A 55	xiv c	ROMA seated l. a. Oxford.	P 66	XXI	A 80(A)
257	A 55	xiv c	ROMA seated l. a. Naville XVIII, no. 119.	P 104		A 54, 78
258	A 55	xiv c	ROMA seated l. a. BMC 88.	P 67	XXI	
259	A 55	xiv c	ROMA seated l. a. Schulman 5 March 1923 (Vierordt), no. 935.	P 159		A 140

260	A 55	xiv c	SPQR/OB/CIVSER in wreath. a. Merzbacher 15 Nov. 1910, no. 1470.	P 160	
261	A 55	xiv c	Victory carrying Palladium l. a. Hall 1126.	P 117	XXIV
262	A 56	xv c	ROMA seated l. a. Oxford.	P 68	A 36 XXI
263	A 56	xv c	SPQR/OB/CIVSER in wreath. a. BMC 113.	P 69	A 150 XXII
264	A 56	xv c	SPQR/OB/CIVSER in wreath. a. Cahn 66, no. 621 = Santamaria 25 May 1926, no. 205.	P 84	A 31(A), 47, 78
265	A 56	xv c	ROMA seated l. a. Münzhandlung Basel 1, no. 290 = Baranowsky 25 Feb. 1931 no. 1503 = Ratto (Lugano) 8 Feb. 1928, no. 2202. b. Naville XVIII, no. 118.	P 118	A 10, (A) A 57(A)
266	A 56	xv c	SPQR/OB/CIVSER in wreath. a. Paris 1166. b. Santamaria 4 June 1952, no. 1216.	P 95	A 41, 150
267	A 56	xv c	ROMA seated l. a. Santamaria 21 Nov. 1932, no. 170 = Santamaria 18 June 1928, no. 115 = Santamaria 25 May 1926, no. 197.	P 161	
268	A 56	xv c	Victory carrying Palladium l. a. ANS.	P 228	XXV

269	A 63	xv c (oak) ROMA seated l.; shield rests on helmet a. Paris 1129. b. Naville II, no. 390 = Hirsch XXXI, no. 1155.	P 18	XX	A 13, 40
270	A 63	xv c (oak) Victory carrying Palladium l. a. Vienna.	P 207	XXV	
271	A 63	xv c (oak) Victory carrying wreath r. a. Paris 1155. b. Vienna 5944.	P 99	XXIV	A 64
272	A 63	xv c (oak) SPQR/OB/CIVSER in wreath. a. Messenger.	P 50	XXII	A 45, 77
273	A 63	xv c (oak) SPQR/OB/CIVSER in wreath. a. Hall.	P 111	XXIII	A 77
274	A 63	xv c (oak) SPQR/OB/CIVSER in wreath. a. Vienna 5919.	P 49		A 42, 43
275	A 63	xv c (oak) ROMA seated l.; shield rests on helmet. a. ANS.	P 152		A 101
276	A 64	xiii e (oak) Victory carrying wreath r. a. BMC 103.	P 99		A 63
277	A 65	xiii c (oak) SPQR/OB/CIVSER in wreath. a. Paris 1173. b. Hall.	P 51	XXII	A 40, 46, 47

278	A 77	XIX	xiv e	SPQR/OB/CIVSER in wreath. a. Oxford. b. Vienna 5920.	P III	A 63
279	A 77		xiv e	SPQR/OB/CIVSER in wreath. a. Schulman 17 May 1938, no. 1492. b. Ryan 2320.	P 50	A 45, 63
280	A 78		xv c	SPQR/OB/CIVSER in wreath. a. Santamaria 21 Nov. 1932, no. 173.	P 130	A 41, 48, 57(A)
281	A 78	XIX	xv c	ROMA seated l. a. Paris 1128.	P 86	
282	A 78		xv c	ROMA seated l. a. Oxford.	P 104	A 54, 55
283	A 78		xv c	SPQR/OB/CIVSER in wreath. a. Ciani 7 April 1930, no. 105a.	P 84	A 31(A), 47, 56
284	A 78		xv c	ROMA seated l. a. Platt 26 June 1922, no. 219. b. Naville II, no. 388.	P 120	A 54, 55
285	A 78		xv c	SPQR/OB/CIVSER in wreath. a. ANS.	P 229	
286	A 82		xv c	ROMA seated l. a. Schulman 5 May 1913, no. 105.	P 65	A 54
287	A 82	XIX	xv c	LIBERT AVG a. Oxford (Kraay), ex Lawrence. <i>Note.</i> This specimen is actually false,	P 121	

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XXIV

XXI

XXI

288	A 100 XIX	xiii c	but is here retained because (a) it provides illustrations of undoubtedly genuine dies otherwise unillustrated, and (b) the die combination is probably also correct since a forger would be unlikely to hit at random upon the only combination of officinae (D and A) which is at all common. ROMA seated l.; to r., one greave. a. Paris 1130.	P 150 XXI	A 63
289	A 100	xiii c	SPQR/OB/CIVSER in wreath. a. Paris 1172. b. Naville XVI, no. 1606 = Naville VIII, no. 683.	P 151 XXIII	
290	A 101	xiii e (oak)	ROMA seated l., shield rests on helmet. a. Paris 1131.	P 152 XXI	
291	A 101	xiii e (oak)	SPQR/OB/CIVSER in wreath. a. Vienna.	P 204 XXIII	
292	A 101	xiii e (oak)	SPQR/OB/CIVSER in wreath. a. Vienna.	P 203	A 13
293	A 101 XIX	xiii e (oak)	ROMA seated l. a. BMC 95. b. Santamaria 4 June 1952, no. 1209 = Naville XVIII, no. 120 = de Sartiges 86.	P 153 XXI	

294	A 102	XIX	xiii f a. Oxford, ex Fitzwilliam 395.	SPQR/OB/CIVSER in wreath.	P 154	XXIII	A 13
295	A 103	XIX	xv c a. Oxford.	Victory carrying Palladium l.	P 155	XXIV	
296	A 104	XIX	xv c a. Fitzwilliam 394.	Victory carrying Palladium l.	P 156	XXV	
297	A 132	XIX	xv c a. Vienna.	SPQR/OB/CIVSER in wreath.	P 157	XXIII	A 13
298	A 137	XIX	xv c (oak) a. Vienna.	Victory carrying Palladium l.	P 208	XXV	
299	A 140	XIX	xv c a. Vienna.	ROMA seated l.	P 159	XXI	A 55
300	A 141	XIX	xiii c (oak) a. Ryan 2319.	SPQR/OB/CIVSER in wreath.	P 213	XXIII	
301	A 150	XX	xiii i a. Ryan 2319	SPQR/OB/CIVSER in wreath.	P 69		A 56
302	A 150		xiii i a. Magnaguti II, no. 557 = Naville II, no. 403 = Egger XXXIX, no. 766 = Bachofen von Echt 886.	SPQR/OB/CIVSER in wreath.	P 95		A 41, 56
303	A 153	XX	xiii c a. ANS.	SPQR/OB/CIVSER in wreath.	P 230	XXIV	

OFFICINA E

Legends xvi. IMP SER SVLP GALBA CAES AVG TR P
 xvii. IMP SER SVLPIC GALBA CAES AVG TR P
 xviii. IMP SER SVLPICVS GALBA CAESAR AVG

Bust variety c. Head r. laur., bust dr.

304	A 19 XXV	xvi c a. BMC 100.	Victory carrying wreath r.	P 25 XXIX	A 20
305	A 20 XXV	xvi c a. Captain Smyth (cast at Oxford).	Victory carrying wreath r.	P 25	A 19
306	A 33	xvi c a. Hall 1125.	Victory carrying wreath r.	P 38	A 34(C)
307	A 33 XXV	xvi c a. ANS.	LIBERTAS PVBLICA	P 231 XXVIII	
308	A 39	xvi c a. Messenger.	LIBERTAS PVBLICA	P 46 XXVII	
309	A 39	xvi c a. Oxford.	LIBERTAS PVBLICA	P 47 XXVII	
310	A 39	xvi c a. Oxford (Kraay), ex Lawrence.	LIBERTAS PVBLICA	P 173 XXVIII	

311	A 39	XXV	xvi c a. in trade, Münz. und Med. Basel	LIBERTAS PVBLICA	P 174	XXVIII	A 86
312	A 86		xvii c a. Naville XV, no. 1446.	LIBERTAS PVBLICA	P 174		A 39
313	A 105	XXV	xvi c a. Paris III16.	LIBERTAS PVBLICA	P 162	XXVII	
314	A 106	XXV	xvi c a. Paris III17.	LIBERTAS PVBLICA	P 163	XXVII	
315	A 107	XXV	xvii c a. Paris III18.	LIBERTAS PVBLICA	P 164	XXVII	
316	A 108	XXV	xvii c a. Oxford.	LIBERAS (sic) PVBLICA	P 165	XXVII	
317	A 108		xvii c a. Vienna.	Victory carrying wreath r.	P 215	XXIX	
318	A 109	XXVI	xvi c a. in trade, Baldwin.	LIBERTAS PVBLICA	P 166	XXVII	
319	A 110	XXVI	xvi c a. Paris II40.	ROMA stg. l.	P 167	XXIX	
320	A 111	XXVI	xvi c a. Oxford (Kraay).	LIBERTAS PVBLICA	P 168	XXVII	

321	A 111	xvi c a. Oxford.	LIBERTAS PVBLICA	P 169	XXVII
322	A 112 XXVI	xvi c a. in trade, Seaby, August 1950.	LIBERTAS PVBLICA	P 178	XXVIII
323	A 113	xviii c a. in trade, Baldwin. b. Vienna 5909.	ROMA seated l.; to r., one greave.	P 170	XXIX
324	A 113 XXVI	xviii c a. BMC 91. b. Paris 1134.	ROMA seated l.; to r., one greave.	P 171	XXIX
325	A 114 XXVI	xvii c (oak) a. BMC 90.	ROMA seated l.; to r., one greave.	P 172	XXIX
326	A 115	xvi c a. Munich.	Victory carrying wreath r.	P 221	XXIX
327	A 115 XXVI	xvi c a. BMC 101.	Victory carrying wreath r.	P 175	XXIX
328	A 116	xvi c a. BMC 71. b. Ryan 2314.	LIBERTAS PVBLICA	P 176	XXVIII
329	A 116 XXVI	xvi c a. Cambridge (Fitzwilliam Mus.).	LIBERTAS PVBLICA	P 177	XXVIII

330	A 144	xvii c	LIBERTAS PVBLICA a. Vienna. b. Santamaria 4 June 1952, no. 1205. c. ANS.	P 217	XXVIII
331	A 145	xvi c	LIBERTAS PVBLICA a. Vienna.	P 218	XXVIII
332	A 146	xvi c	LIBERTAS PVBLICA a. Vienna.	P 219	XXVIII
333	A 147	xvi c	LIBERTAS PVBLICA a. in trade, Münz. und Med. Basel, 1951 = Santamaria 6 April 1908, no. 420.	P 220	XXVIII
334	A 151	xvi c	SPQR/O-B/CIVSER in wreath. a. Vienna. b. Oxford (Kraay).	P 205	A 133(C), A 70(C) XIII
335	A 152	xvi c	Victory carrying wreath l. a. Vienna.	P 32	A 24(C), 25(C), 133(C)
336	A 154	xvi c	LIBERTAS PVBLICA a. ANS.	P 232	XXVIII
337	A 154	xvi c	LIBERTAS PVBLICA a. Oxford (Kraay).	P 233	XXVIII

OFFICINA F
 (Sestertii)

Legend xix. **SER GALBA IMP CAESAR AVG P M TR P P P**
 Bust variety b. Head r. laur., globe at point of bust.

338	A 117	xix b	VICTORIAE IMP GALBAE AVG (no SC) a. Oxford, ex Ryan 2322.* b. NC 1915, pl. XVI, 6 and BMC I, p. 353.	P 179	XXX
339	A 118	xix b	XXXX REMISSA. Arch. a. Paris 1177.	P 180	XXIX
340	A 118	xix b	XXXX REMISSA. Arch. a. Paris 1164(a). b. BMC I, pl. 59, 4. c. Ryan 2323. d. Oxford (Kraay).	P 181	XXIX

* According to the Ryan Catalogue this coin came from the Walters Collection; it is not, however, the same specimen as that which Walters published from his collection in *NC*, ser. 4, *XV* (1915). On the Oxford coin there is definitely no S C and Walters could see none on his, although Mattingly says of the latter, "clear traces of S C in ex. remain" (*BMC I*, p. 353).

Dupondii and asses

Legends xix. **SER GALBA IMP CAESAR AVG P M TR P P P**
 xxiv. **SER GALBA IMP CAESAR AVG PON M TR POT**
 xxv. **SER GALBA IMP CAESAR AVG PON M TR P P P**

Bust varieties b. Head r. laur., globe at point of bust.
 k. Head l. laur., globe at point of bust.

341	A xiii	XXX	xix b	LIBERTAS PVBLICA ~ a. Oxford (Kraay): dupondius. b. Vienna 5872: dupondius.	P xviii	XXX
342	A xiv	XXX	xix b	LIBERTAS PVBLICA a. Paris 4977: dupondius.	P xix	XXX
343	A xv	XXX	xix b	FIDES PVBLICA a. BMC 247: dupondius.	P xx	XXX
344	A xvi	XXX	xix k	LIBERTAS PVBLICA ~ a. Paris 4994.	P xxi	XXX
345	A xvii		xxiv b	ROMA (in ex.) seated l. a. Paris 4997.	P xxii	XXXI
346	A xviii	XXX	xxiv b	ROMA (in ex.) seated l. a. Oxford (Kraay).	P xxiii	XXXI
347	A xix	XXX	xxiv b	ROMA (in ex.) seated l. a. BMC 248.	P xxiv	XXXI
348	A xix	XXX	xxv b	PAX AVG a. Paris 4985. b. Oxford (Kraay), ex Ryan 2725. c. ANS.	P xxv	XXXI
349	A xxii		xix b	[FIDES? PVB]LICA Female figure standing l., extending r. arm and holding cornucopia on l.	P xxix	
		XXX	a. Basel.			

OFFICINA G

(Sestertii)

- Legends xx. SER SVLPI GALBA IMP CAESAR AVG TR P
 xxi. SER SVLPI GALBA IMP CAE AVG P M TR P
 xxii. SER SVLPI GALBA IMP CAESAR AVG P M TR P

- Bust varieties a. Head r. laur.
 b. Head r. laur., globe at point of bust.
 c. Head r. laur., bust dr.
 e. Head l. laur., bust dr.
 g. Head r. laur., with aegis.

350	A 119	XXXXI	xxii e a. BMC 257. b. Paris 1112.	HONOS ET VIRTUS	P 182	XXXII	A 121, 127
351	A 119		xii e	HISPANIA CLVNIA SVL a. BMC 254.	P 183	XXXII	A 122
352	A 119		xxii e a. Sambon and Canessa 18 Nov. 1907 (Martinetti), no. 1660.	ADLOCVTIO S C (in ex.).	P 192		A 121, 123
353	A 119		xxii e a. Rivista Italiana V, pl. I, 3	LIBERTAS RESTITVTA	P 191		A 125, 126
354	A 119		xxii e a. Paris 1164. b. Bernhart, Handbuch zur Münzkunde, pl. 42, 3	Aesculapius	P 186		A 121, 124

355	A 119	xxii e	HONOS TE (sic) VIRTVS a. Paris 1111. b. Ryan 2313.	P 195	XXXXII	Used Vitellius, see Chapter III, note 66
356	A 119	xxii e	ADLOCVTIO S/C a. Ryan 2306. b. Santamaria 4 June 1952, no. 1200.	P 188		A 119, 122, 123, 124
357	A 120	xxi c	HONOS ET VIRTVS a. BMC 255.	P 184	XXXXII	
358	A 121	xx c	MARS VICTOR stg. front. a. Ryan 2316. b. Paris 1112 (cast). c. Vienna (cast). d. BM. (cast).	P 199	XXXXII	A 125
359	A 121	xx c	HONOS ET VIRTVS a. BMC 256. b. Paris 1110. c. Vienna (tooled). d. Ryan 2312.	P 185	XXXXII	A 128, Used Vitellius, see Chapter III, note 66
360	A 121	xx c	Aesculapius. a. Hall 1128.	P 186		A 119, 124
361	A 121	xx c	ADLOCVTIO SC (in ex.) a. ANS.	P 192		A 119, 123

362	A 121	xx c	<p><i>b.</i> Oxford (Kraay), ex Lawrence. <i>c.</i> Paris 1091. <i>d.</i> Münzhandlung Basel 8, no. 595. <i>e.</i> Munich. <i>f.</i> Ryan 2304 = Ratto (Milan) 4 June 1913, no. 248.</p>	P 182	XXXII	A 119, 127
363	A 121	xx c	<p><i>a.</i> HONOS ET VIRTVS Münzhandlung Basel 8, no. 598. <i>b.</i> Oxford (Kraay), ex Lawrence.</p>	P 189		A 122, 123, 124, 125, 127
364	A 122	xxii b	<p><i>a.</i> Paris 1109. <i>b.</i> Ryan 2311. <i>c.</i> Santamaria 4 June 1952, no. 1203.</p>	P 187	XXXIII	
365	A 122	xxii b	<p><i>a.</i> SENATVS PIETATI AVGVSTI Oxford, ex Hall 1127. <i>b.</i> Paris 1165. <i>c.</i> BM. (not catalogued)—much tooled and altered. <i>d.</i> Bourgey 16 Dec. 1913, no. 119. <i>e.</i> Vienna.</p>	P 188		A 119, 123, 124, 125
366	A 122	xxii b	<p><i>a.</i> ADLOCVTIO S/C Vienna.</p>	P 183		A 119

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367	A 122	xxii b	HISPANIA CLVNIA SVL a. Hess (Lucerne) 211, no. 444.	P 189	A 121, 123, 124, 125, 127
368	A 122	xxii b	VICTORIA IMPERI ROMANI a. Paris 1176.	P 194	XXXIII
369	A 123	xx a	ADLOCVTIO S/C a. Hall 1111.	P 188	A 119, 122, 124, 125
					XXXII
370	A 123	xx a	ADLOCVTIO SC (in ex.) a. Oxford, ex Lawrence. b. BMC 249.	P 192	A 119, 121
371	A 123	xx a	HISPANIA CLVNIA SVL a. Naville XII, no. 2785.	P 189	A 121, 122, 124, 125, 127
372	A 124	xxii g	HISPANIA CLVNIA SVL a. Oxford, ex Hall 1115. b. Paris 1108.	P 189	A 121, 122, 123, 125, 127
					XXXII
373	A 124	xxii g	Aesculapius. a. BMC 260.	P 186	A 119, 121
					XXXIII
374	A 124	xxii g	ADLOCVTIO S/C a. Sambon and Canessa 8 Nov. 1907 (Martinetti), no. 1661. b. Paris 1090 (heavily tooled).	P 188	A 119, 122, 123, 125
					XXXVII

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375	A 125	xxii g c. Vienna (tooled). d. Munich. e. ANS.	HISPANIA CLVNIA SVL a. BMC 252. b. Vienna. c. Ryan 2311.	P 189	A 121, 122, 123, 124, 127
376	A 125	xxii g a. Vienna. b. Bernhart, <i>Handbuch zur Münzkunde</i> , pl. 38, 8.	MARS VICTOR stg. front.	P 199	A 121
377	A 125	xxii g a. BMC 258. b. Vienna (cast?). c. Ryan 2316.	LIBERTAS RESTITVTA	P 191	A 119, 126
378	A 125	xxii g a. Oxford, ex Fitzwilliam. b. Ryan.	ADLOCVTIO S/C	P 188	A 119, 122, 123, 124
379	A 126	xxii g a. BMC 259. b. Hall 1121 (cast?).	LIBERTAS RESTITVTA	P 191	A 119, 125

XXXIII

380	A 127	XXXXI	xxii g	ROMA seated l. a. BM. (not catalogued) ex Naville VIII (Bement), no. 677.	P 190	XXXXIII	A 119, 121
381	A 127		xxii g	HONOS ET VIRTVS a. Ratto (Milan) 27 April 1911, no. 690.	P 182		A 121, 122, 123, 124, 125
382	A 127		xxii g	HISPANIA CLVNIA SVL a. Baranowsky 25 Feb. 1931, no. 1500.	P 189		A 121, Used Vitellius see Chapter III, note 66
383	A 128		xxii c	HONOS ET VIRTVS a. Münzhandlung Basel 1, no. 285. b. Vienna.	P 185		
384	A 128	XXXII	xxii c	ROMA RESTI a. Paris 1145. b. Fitzwilliam 43. c. Bernhart, <i>Handbuch zur Münzkunde</i> , Pl. 83, 13. d. Vienna.	P 193	XXXXIII	
385	A 129	XXXII	xx a	PIETAS AVGVSTI a. Paris 1125 (very worn, pierced and gilded). Later use of Æ I dies of <i>officina</i> G. Vitellius. For re-use of P 185, 195 see Chapter III, note 66 and Pl. XXXV, A and B.	P 196	XXXII	

8 Kraay

(Dupondii and Asses)

- Legends iv. IMP SER GALBA CAES AVG TRP
 xx. SER SVLPI GALBA IMP CAESAR AVG TR P
 xxii. SER SVLPI GALBA IMP CAESAR AVG P M TR P

- Bust varieties a. Head r. laur.
 b. Head r. laur., globe at point of bust.
 c. Head r. laur., bust dr.
 h. Head r. bare, globe at point of bust.
 i. Head r. bare, bust dr.

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386	A i	XXXXIII	xxii a a. Oxford. b. Paris 4992. c. BMC 261. d. Ryan 2726.	P i	XXXIV	
387	A i		xii a a. Oxford (Kraay).	P ii	XXXIV	
388	A i		xxii a a. Hall 1135. b. in trade, Boudeau (Paris), March 1950. c. Münzhandlung Basel I, no. 312.	P iii	XXXIV	A ii, iii, iv
389	A ii		xxii b a. Lawrence. b. Paris 5003.	P iii		A i, iii, iv

390	A ii	XXXXIII	xxii b 3 standards on prows. a. Oxford (Kraay).	P xii	XXXXXI	Used Vesp., see Chapter III, note 68
391	A ii		xxii b Victory l. a. in trade, Münz. und Med. Basel, Nov. 1950. b. Vienna.	P x		A vi, vii
392	A iii		xxii i 3 standards on prows. a. Münzhandlung Basel I, no. 313.	P iii		A i, ii, iv
393	A iii		xxii i Victory l. a. Vienna.	P xxvii	XXXXV	
394	A iii		xxii i 3 standards on prows.	P iv		Used Vesp. and Vitellius see Chapter III, note 68
		XXXXIII	a. Lawrence. b. Paris 5002.		XXXXIV	
395	A iii		xxii i AEQVITAS AVGVSTI a. Münzhandlung Basel I, no. 302.	P v		A xi
396	A iv		xxii b 3 standards on prows. a. Oxford (Kraay).	P iii		A i, ii, iii
397	A iv		xxii b PROVIDENT a. Hall 1136. b. Paris 4993. c. Vienna. d. Oxford, ex Ryan 2726.	P vi	XXXXIV	

398	A iv	xxii b	Victory l. a. Naville II, no. 395.	P vii	A v
399	A iv	xxii b	SECVRITAS P ROMANI S/C a. Lawrence: struck in orichalcum.	P viii	Avi Used. Vesp., see Chapter III, notes 71 and 72
400	A iv	xxii b	SECVRITAS P ROMANI SC (in ex.) a. Paris 5008. b. Oxford (Kraay): struck in orichalcum.	P xiv	XXXXV
401	A v	xxii h	Victory l. a. Ryan 2727 = Münzhandlung Basel I, no. 310.	P vii	A iv
402	A vi	xiii i	SECVRITAS P ROMANI S/C a. BMC 266. b. Paris 5009. c. Vienna.	P viii	A iv Used Vesp. see Chapter III, notes 71 and 72
403	A vi	xxii i	Victory l. a. Hall 1135.	P ix	XXXXV
404	A vi	xxii i	Victory l. a. Oxford.	P x	A ii, vii

405	A vi	xvii i	SALVS AVGVSTI a. Oxford.	P xi		A vii, ix
406	A vii	xxii c	Victory I. a. Lawrence. b. Paris 4999. c. Paris (unnumbered). d. BMC 263.	P x	XXXV	A ii, vi
407	A vii	xxii c	SALVS AVGVSTI a. Oxford (Kraay). b. Vienna. c. ANS.	P xi		A vi, ix
408	A viii	xx a	AEQVITAS a. Paris 4955. b. Hess (Lucerne) 22 May 1935 (Trau), no. 510. c. Vienna.	P xiii	XXXV XXXIV	A xii
409	A viii	xx a	PAXS AVGVSTI a. in trade, Münz. und Med. Basel, Nov. 1950. b. Basel.	P xvii		A xx
410	A ix	xxii a	SALVS AVGVSTI a. Paris 4998.	P xi	XXXIV	A vi, vii
411	A x	xx a	SALVS AVGVSTI a. Paris 5007a. b. Oxford, ex Ryan 2726 = Münz- handlung Basel I, no. 301.	P xv	XXXV	

412	A x	xx a	Victory 1. a. Ryan 2727 = Münzhandlung Basel 1, no. 311.	P xvi	XXXXV	
413	A xi	xxii i	SALVS AVGVSTI a. Vienna.	P xxvi	XXXXV	
414	A xi	xxii i	AEQVITAS AVGVSTI a. Paris 4954. b. Vienna.	P v	XXXXIV	A iii
415	A xii	iv a	AEQVITAS a. Oxford (Kraay). b. Ryan 2724.	P xiii		A viii
416	A xx	xxii h	PAXS AVGVSTI a. Vienna. b. Oxford, ex Ryan 2726.	P xvii		A viii
417	A xxi	xxii b	3 standards on prows. a. Ryan 2727. b. ANS.	P xxviii		
Later use of Æ 2 dies of officina G. Vitellius. For re-use of P iv, see p. 53, n. 68 and pl. XXXVI, 1.						

A-	XXXXVI, 2	Vespasian Head r. laur. IMP CAES VESPASIAN AVG COS III <i>a.</i> Paris 5140. <i>b.</i> Lawrence. <i>c.</i> Vienna.	3 standards on prows.	P iv	XXXXVI, 2
A-		Head r. laur., bust dr. IMP CAES VESPASIAN AVG P M TR P P P COS II D III <i>a.</i> Oxford (Kraay), ex Ryan 2743 = Schulman 5 March 1923 (Vierordt), no. 1023.	SECVRITAS P RO- MANI S/C	P viii	
A-	XXXXVI, 4	Head r. radiate. IMP CAES VESPASIAN AVG COS III <i>a.</i> Cambridge (Fitzwilliam Mus.).	SECVRITAS P RO- MANI S/C	P viii	XXXXVI, 4
A-	XXXXVI, 3	Head r. laur., bust dr. IMP CAES VESPAS- IANVS AVG COS III <i>a.</i> Oxford (Kraay).	3 standards on prows.	P xii	XXXXVI, 3

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A α	XXXXVI-A	viii a a. Paris 1126.	PP/OB/CIVES/ SERVATOS/SC	P β	XXXXVI-B	Used with obv. of Clau- dius (<i>BMC</i> I, p. lxxx)
A α		viii a a. <i>BMC</i> 68.	LIBERTAS PVBLICA	P γ	XXXXVI-C	
A α		viii a a. Vienna. b. Sulphur cast in Oxford.	ADLOCVT S C Galba l. on dais addressing soldiers r.	P δ		A β
A β		IMP SER SVLP GALBA CAES AVG TR POT a. Oxford.	ADLOCVT S C Galba l. on dais addressing soldiers r.	P δ	XXXXVI-E	A α
A β	XXXXVI-D	As preceding. a. Oxford.	ADLOCVT S/C copied from P 188.	P ε	XXXXVI-F	

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A 86 (E) Naville XV, no. 1446.

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- P 41 Santamaria 16 Jan. 1924, no. 159.
- P 56 Santamaria 16 Jan. 1924, no. 157.
- P 71 Hirsch XXXIII, no. 1162.
- P 72 *Rivista Italiana* IV (1891), pl. xvia, 2.
- P 108 Santamaria 24 Jan. 1938, no. 352 = Hess (Lucerne) 18 Dec. 1933,
no. 421.
- P 122 Münzhandlung Basel 10, no. 558 = Hess (Lucerne) 207, no. 992.
- P 144 Ciani 2 June 1920, no. 351.
- P 149 Schulman 5 March 1923 (Vierordt), no. 942.
- P 158 Hirsch XXIV (Weber), no. 1102.
- P 160 Merzbacher 15 Nov. 1910, no. 1470.
- P 161 Santamaria 21 Nov. 1932, no. 170 = 18 June 1928, no. 115 =
25 May 1926, no. 197.
- P 224 Santamaria 16 Jan. 1924, no. 156.

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P 11	B	72, 87, 95, 102	VIII	P 44	D	220	XXIV
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P 14	A	3	IV	P 47	E	309	XXVII
P 15	C	124, 127, 129, 158	XVI	P 48	D	225, 230	XXII
P 16	D	203	XXIV	P 49	D	233, 234, 274	XXII
P 17	D	204, 224	XX	P 50	D	236, 272, 279	XXII
P 18	D	205, 229, 269	XX	P 51	D	228, 237, 241, 277	XXII
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P 22	A	7, 8	IV	P 55	D	208, 247	XXII
P 23	A	9, 11	IV	P 56	D	248	—
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P 164	E	315	XXVII	P 204	D	291	XXIII
P 165	E	316	XXVII	P 205	C	174, 199, 334	XIII
P 166	E	318	XXVII	P 206	A	64	IV
P 167	E	319	XXIX	P 207	D	270	XXV
P 168	E	320	XXVII	P 208	D	298	XXV
P 169	E	321	XXVII	P 209	A	66	V
P 170	E	323	XXIX	P 210	B	120	IX
P 171	E	324	XXIX	P 211	C	128	XII
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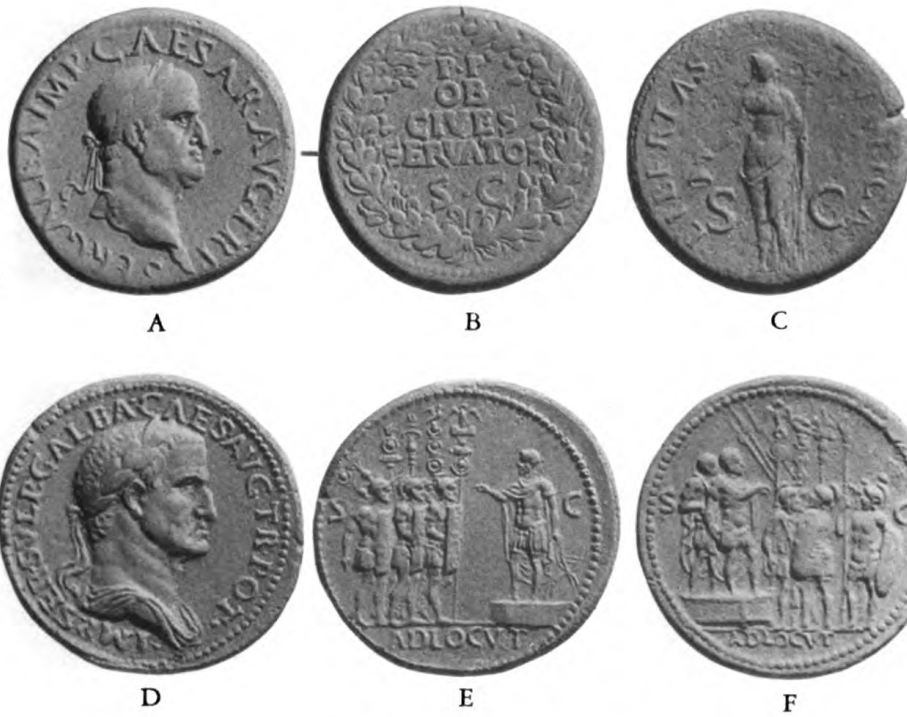
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no. 134

AMERICAN NUMISMATIC SOCIETY, ~~NEW YORK~~

NUMISMATIC NOTES AND MONOGRAPHS

No. 134

THE EUBOIAN LEAGUE AND ITS COINAGE

By W. P. WALLACE



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The Euboian League and its Coinage

By W. P. WALLACE



THE AMERICAN NUMISMATIC SOCIETY

NEW YORK

1956

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PREFACE

It is characteristic of our ignorance of Greek, as opposed to Athenian, history, that the Euboian League, which was in existence for nearly five hundred years (from the fifth century B.C. to the time of the emperor Claudius or later) is referred to definitely only in one passage of Aischines, and in a few inscriptions. Under the circumstances little attention has been paid to it; no one has attempted to discover what role it may have played in the history of Euboia. The League did, however, issue coins, which enable us to date its foundation and to see that it had a more or less continuous existence; so much numismatists have observed, but no one has studied the coins in detail, attempting to list all of the issues and to determine their dates closely. It is my hope that this book in which the essential facts are collected and examined may call attention to a comparatively early and not uninteresting federation, and to a series of coins which have some claim to beauty and throw some light on the history of their period; they show, for instance, that the Macedonians, during the period of their supremacy, interfered less seriously than has often been supposed with the autonomous issues of Greece.

I began the collection of photographs, casts, and specimens of the various coinages of Euboia almost twenty years ago, but only in the case of the Euboian League does the number of specimens about which it has been possible to get information seem large enough, in relation to the number of dies used to produce them, to suggest that the series is now known with some approximation to completeness. For the drachms, at least, of the League it has clearly been possible to record most of the dies and die combinations of the original issues. Thus when, recently, the 236 drachms of section B of hoard 4 became available for study, they provided only one new die and four new die combinations. In the kantharos issue, for instance, the 299 specimens about which information is available are all struck from five obverse dies from which respectively 118, 20, 16, 78, and 67 coins are known, and from seven reverses from which 65, 47, 6, 63, 65, 33, and 20 coins are known; here it is clearly rather improbable that the discovery of

more specimens will add new dies. In some issues our knowledge of some dies depends on one or two specimens only, but in general it seems safe to assume that future discoveries will add little to our knowledge. There are, I think, few series of Greek coins of which this can be said.

The fact that the drachm issues are so well known makes it possible to draw certain conclusions. For instance, dies were used very unevenly in this series, and any discussion about their "average length of life" would have little value—in the case of the kantharos drachms just quoted the number of known specimens from a single obverse varies from 118 to 16, from a reverse from 65 to 6. This may only mean that some dies broke sooner than others, but, as will be seen, the explanation is probably more complicated than that. Again, issues struck from such small numbers of interconnecting dies must surely each have been produced in a short period of, perhaps, a few months or weeks only, and long gaps of fifteen or twenty years between issues are clearly indicated by the comparative wear in hoards. This situation is probably more common than has been realized in all except the largest Greek mints.

Such studies as the present can only be produced through the co-operation of many people. To the officers of the American Numismatic Society my debt is great and various. Its editor, Mr. Mosser, spent long hours copying photographs for me ten years ago, and the manuscript bears the imprint of his much more recent efforts. To Mr. Noe I am grateful for kindly assistance and pertinent discouragement at many points. Miss Margaret Thompson has read the manuscript and made valuable suggestions. Mr. De Vere Baker produced most of the photographs from which the plates were made. I was fortunate in having the opportunity, at the beginning of my studies, of discussing some problems with the late E. T. Newell, and his kindness to me has been continued by Mrs. Newell, who has allowed me to examine and photograph the Euboian coins in her collection. In general I have found the Society's photographic file and incomparable library extremely useful. I have had to impose upon the often overworked and under-staffed directors of many European museums, and they have without exception been willing to send me casts or photographs. Coin dealers have usually proved to be interested and helpful,

and to a few of them, notably to Mr. Edward Gans, Mr. Royle Baldwin, Dr. Jacob Hirsch, and Dr. Albert Cahn, I am deeply indebted; they have both provided me with information and willingly searched on my behalf for additional and unusual specimens.

A fellowship granted by the John Simon Guggenheim Foundation made possible an invaluable trip to Greece, and leave of absence from University College gave me a year free from lectures and other engagements. A grant from the American Philosophical Society defrayed some of the photographic expenses.

I gratefully acknowledge the assistance of many scholars and collectors. For casts, photographs, and information I am indebted to the following—the list of names unfortunately gives no indication of the long letters and detailed kindnesses involved:

Kyria Irene Varoucha of the National Numismatic Museum in Athens, who also made it possible for me to examine and photograph the coins of the most important hoard of Euboian League issues yet discovered, the Eretria hoard of 1937 (see p. 47); in this matter Kyrios Orlandos, the Director of Archaeology at the time, kindly cooperated. Kyria Euelpides of Athens, Kyrios Lores Meletopoulos of Kephissia near Athens, Kyrios Demetrios Sisilianos of Athens, Kyrios Euripides Sipheriades of Athens, Professor John Caskey, Director of the American School of Classical Studies in Athens, Miss Virginia Grace of the Agora Excavations Staff of the American School of Classical Studies in Athens, Miss Eva Brann of the American School of Classical Studies in Athens, Mr. E. S. G. Robinson, and Mr. G. K. Jenkins, of the British Museum, the late Dr. J. G. Milne, and Mr. Colin Kraay, of the Ashmolean Museum in Oxford, Mr. Carl Winter, and Mr. H. T. Shrubbs, of the Fitzwilliam Museum in Cambridge, Mr. J. F. Healy of Trinity College, Cambridge, Mr. J. W. Thomas of the Public Library, Museum, and Art Gallery in Blackburn, for information about coins in the Hart Collection, Miss Anne Robertson of the Hunterian Museum in Glasgow, M. Jean Babelon of the Cabinet des Médailles of the Bibliothèque Nationale in Paris, M. le Cte. Chandon de Briailles of Chaource (Aube), France, Signorina Laura Breglia and Professor A. Maiuri of the Museo Nazionale di Napoli in Naples, Italy, Dr. W. Schwabacher of the Statens Historiska Museum och Kungl. Myntkabinettet, and Col. George

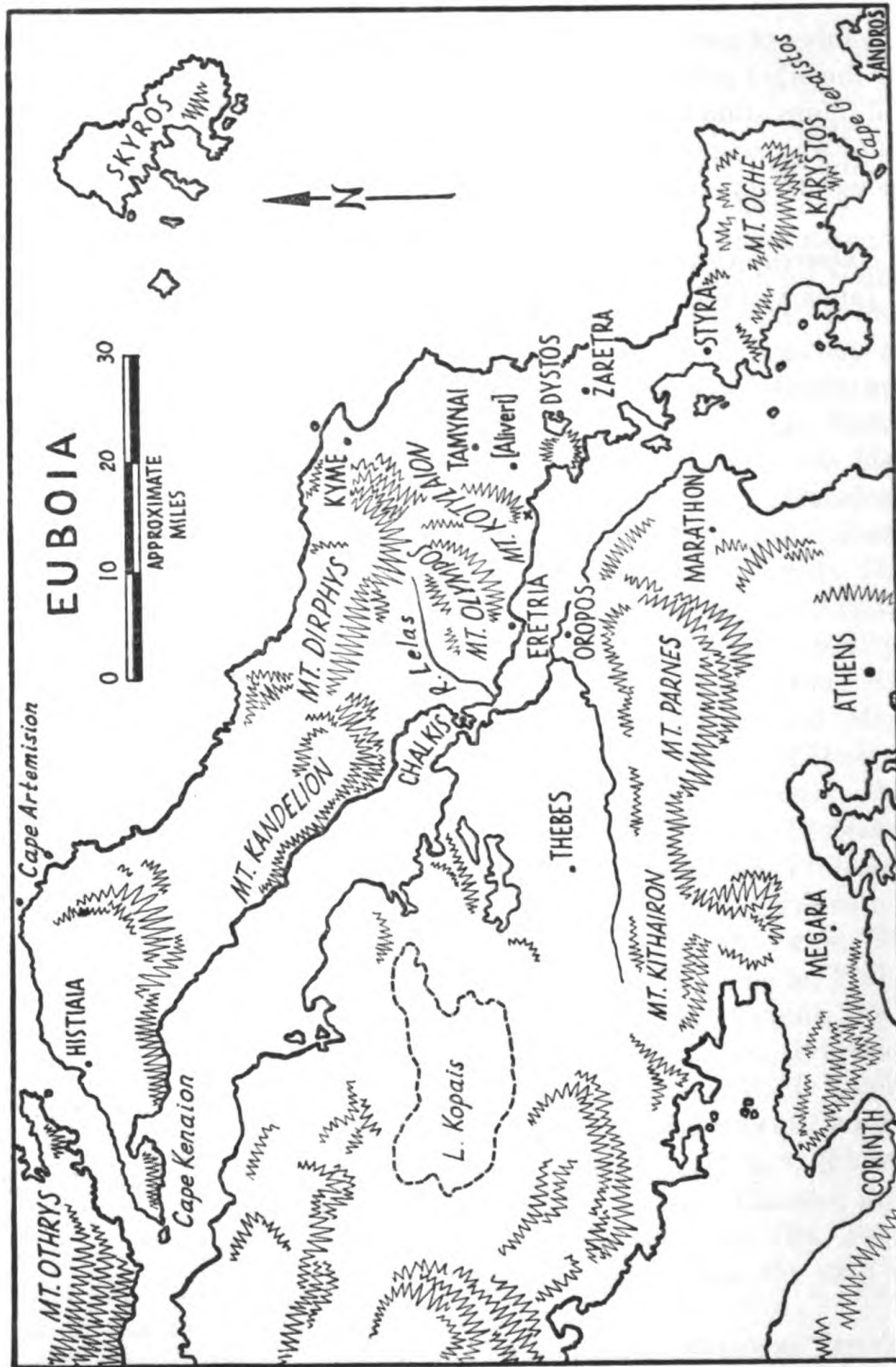
de Laval, in Stockholm, Dr. Niels Breitenstein of the National Museum in Copenhagen, who also kindly procured me casts of coins in the Musée Thorvaldsen, Dr. A. N. Zadoks-Jitta of the Koninklijk Kabinet van Munten, etc., in the Hague, Holland, who also kindly provided information about Euboian coins at the Academy of Sciences in Amsterdam, Dr. F. Wielandt of the Bad. Landesmuseum in Karlsruhe, Germany, Dr. Peter Berghaus of the Museum für Hamburgische Geschichte, in Hamburg, Germany, Dr. K. Kraft of the Staatliche Münzsammlung in Munich, Germany, Dr. H. Luschey of the Archäologische Institut der Universität in Tübingen, Germany, Dr. Bingemer of the Historisches Museum, Frankfurt am Main, Germany, Dr. Eduard Holzmaier of the Bundessammlung von Medaillen, Münzen und Geldzeichen, in Vienna, Austria, Dr. Hansjörg Bloesch of the Stadtbibliothek, Winterthur, Switzerland (where Imhoof-Blumer's invaluable collection of casts is preserved), Dr. H. Lanz of the Historisches Museum, Basel, Switzerland, Mr. Arthur S. Dewing of Boston, Professor Sterling Dow of Harvard University, who enabled me to examine the coins in the Fogg Museum, Mr. S. Vryonis of Harvard University, Mrs. R. M. Alford, and Mrs. A. M. Budde, of the Museum of Art, Rhode Island School of Design, Providence, R.I., Professor A. R. Bellinger of Yale University, Mr. Ireton Benson of Great Neck, Long Island, N.Y., U.S.A., Professor E. Zygman of New York, Mr. F. S. Knobloch of New York, Professor and Mrs. Homer Thompson, Institute for Advanced Study, Princeton, Miss Frances Jones of the Museum of Historical Art, Princeton, Dr. Roger Edwards of the University of Pennsylvania Museum, Philadelphia, Professor Mary Pearl of Sweet Briar College, Virginia, Professor W. E. Caldwell of the University of North Carolina, Professor Saul Weinberg of the University of Missouri, Professor D. M. Robinson of the University of Mississippi, Mr. John T. Roberts of Denver, Colorado, Mr. B. K. Wasson of Valois, Quebec, Dr. J. S. Wilkinson of Toronto, Professor Mary White of Trinity College, Toronto, Professor L. E. Woodbury of University College, Toronto, Mrs. Peter Talovich, a former student of mine, who kindly drew the map of Euboea for me.

The coins of the Euboian League were probably struck at Eretria, and are particularly well known owing to the fortunate discovery of

a number of useful hoards. For the autonomous coins of Eretria, and for the other mints of the island, Chalkis, Histiaia, and Karystos, less full information is available. I shall be grateful if any reader of this book who possesses coins of any of these four mints will be good enough to communicate with me.

W. P. W.

University College, Toronto
January, 1955.



I. THE HISTORY OF THE LEAGUE

The Foundation of the League

The Euboian League was founded at the time of the revolt from Athens, in 411 B.C., of Eretria, Chalkis, and Karystos.¹ It was at first under Peloponnesian influence, and was doubtless intended to secure the protection of its cities against Athens; Eretria was the mint, and probably in some sense the capital, of the new League. These facts are mentioned by no ancient author, but may be deduced with practical certainty from the coins, and have been agreed upon for many years. In 1883 Imhoof-Blumer published the Paris Aiginetic didrachm, then unique, and in a single sentence set forth its date and its significance: "Le style de ce didrachm indique la fin du Ve siècle, c'est-à-dire l'époque précise où les Eubéens venaient de s'affranchir du joug des Athéniens (411), en se ralliant au parti des Peloponnésiens"²—a significance underlined by the Aiginetic, as opposed to the

¹ Thuc. VIII 95, and Diodoros XVIII 47. See also IG XII, 9, 187 A (= M. N. Tod, *Greek Historical Inscriptions I*², Oxford 1946, no. 82) for the assistance rendered Eretria by Hegelochos of Taras, who is undoubtedly the commander of the Tarentine ships mentioned by Thucydides in VIII 91; this decree suggests that the Tarentines did not just happen to be in Agesandridas' fleet, but had had direct discussions with Eretria, which again emphasizes the long preparation of the revolt, and makes late in 411 rather than some time in 410 the probable date of the earliest League coins (see p. 3 below). Histiaia, in the north, was not involved in the revolt, for the city was still, as it had been for a generation, entirely occupied by Athenians; the original inhabitants and their descendants did not return, probably, until 404. The name of this state was 'Hestiaia' in the fifth century and seems to have been 'Histiaia' thereafter, although the old spelling occurs occasionally as late as the second century; the chief city was originally also 'Hestiaia,' but after the Athenians drove out the inhabitants and sent a colony of their own to the district in 446, it appears always to have been 'Oreos.' See Fr. Geyer, *Topographie und Geschichte der Insel Euböia* (Berlin 1903) pp. 82–3, and Louis Robert, *Études de numismatique grecque* (Paris 1951) p. 179, note 2. In modern works both state and city are usually referred to as 'Histiaia,' and that practice will be followed here.

² *Monnaies grecques* (Leipzig 1883) p. 224. Imhoof had already mentioned the coin in passing: in 1881 he had attributed it to Eretria, and said that it was struck in 411 under Peloponnesian influence, on the Aiginetic standard ("Die Euböische Silberwährung," *Monatsbericht der kön. Preuß. Akad. d. Wiss. zu Berlin*, Berlin 1881, p. 657); this passage reappeared the next year in the

Euboio-Attic, weight of the coin.³ The British numismatists were at first doubtful, but the appearance of further coins confirmed, within the decade, the correctness of his opinion.⁴ Thus for the last sixty years there has been agreement among numismatists about the date and circumstances of the foundation of the Euboian League. But the coins have been very little studied, and the major historians of Greece have neglected them completely.⁵

French translation, with additions, of this article ("Le système monétaire Euboïque," *Annuaire de la Société Française de Numismatique*, Paris 1882, p. 3).

³ One may be tempted also to see anti-Athenian feeling in the fact that the head appears on the reverse of this didrachm, as is the case in Corinthian and various other Peloponnesian issues, rather than on the obverse, as was the rule from the beginning at Athens—no earlier Euboian coins have a head as type at all. On this point see H. A. Cahn's article "Zur frühattischen Münzprägung" in *Museum Helveticum* 1946, especially pages 160–1. But the greater practicality of the Athenian system soon persuaded the Euboians to abandon the Corinthian scheme—for whatever reason adopted—and the second and larger issue was struck with the head on the obverse.

⁴ Head, in the *British Museum Catalogue* of the coins of *Central Greece* (London 1884) and in the first edition of *Historia Numorum* (London 1887), accepted Gardner's suggestion that the unique stater might be Cretan. Imhoof, however, in his *Griechische Münzen* (Munich 1890) published a good photograph of the didrachm and defended his attribution: "Von dem unter dem Einflusse der Peloponnesier gemachten Versuche der Euböer, die Aiginäische Währung auf der Insel einzuführen, gibt bis jetzt einzig das eben besprochene Didrachmon Zeugnis" etc. (p. 535). At the same time he published, from his own collection, the first Euboian League tetradrachm (of Attic weight) to be identified, dating it about 400 B.C.; the fractions had long been known. Then in the *Numismatic Chronicle* for 1892 a second Aiginetic didrachm was published by Hermann Weber, who also called attention to a second tetradrachm, in the Photiades collection (Hoffman sale, May 19, 1890), and accepted Imhoof's attribution, as did Head in *HN*³ (1911).

⁵ By no means all of the issues are listed in the *British Museum Catalogue* of *Central Greece* or in Babelon's *Traité des monnaies grecques et romaines*, II. 3 and III. 3 (Paris 1914 and 1916), the latter being the most complete publication so far of the coinage of the League, while *HN*³ devotes less than one page to the subject and actually omits to mention the drachms of lighter weight which make up the great bulk of the coinage. The curious reader will look in vain for references to the foundation of the Euboian League or to its coinage in Grote, Beloch, Busolt, Holm (who does, however, include a bare reference to our coins in his long note on the coinage of the Athenian empire), the *Cambridge Ancient History*, Glotz, De Sanctis, etc. Even Swoboda, who devotes most of his *Griechische Staatsaltertümer* (Tübingen 1913) to the Greek leagues, can spare only a paragraph for the Euboian, which, he says, "bereits zu Anfang des zweiten Jahrhunderts existierte." There is a brief and inaccurate account of the coinage of the League in M.O.B. Caspari's "Survey of

The coins themselves, which have mostly been found in Euboia, and carry the inscription EYB as well as the probably canting type of a heifer,⁶ are clearly coins of a Euboian League. Their date is certainly late in the fifth century, a fact established not only by their style, but also by their occurrence along with Boiotian coins of this period in similar condition in the Euboio-Boiotian hoard of 1951.⁷ The Aiginetic weight of the earliest issues—a weight never met with otherwise in the island—shows that the league which issued them was more closely linked, at first, to the states of the Peloponnese than to Athens.⁸ The coins thus make it necessary to suppose that the league was formed either in 411/10, when the Spartans enabled three of the four Euboian cities to rebel from Athens, or very soon thereafter. Earlier there was no opportunity for such a combination, while by 394 Eretria and doubtless Chalkis and Karystos, too, were again on friendly terms with Athens,⁹ and it is hard to see why a Euboian League should thereafter have coined on the Aiginetic standard. Between 411/10 and 400–395 room must be found for two issues of didrachms which were not immediately consecutive but were separated by a period of a few years.¹⁰ The first issue must accordingly belong either to the last few months of 411 or at the latest to some date in 410; since the revolt had been plotted as early as the fall and winter of 412/11 (Thuc. VIII 4 and 60), secret arrangements may well have

Greek Federal Coinage" (*JHS* 37, 1917, pp. 168–183). Caspari naturally accepted Head's dates; he also assumed that all four cities belonged to the League, and struck their own coins concurrently with its issues. He had difficulty in summarizing the orthodox view, for none existed.

⁶ That the animal is a young cow, a heifer, and not a bull, is clear enough on the tetradrachms, and so the didrachms and the drachms presumably also represent a cow—on the drachms it has been customary to describe the type as a "bull's head." The sixth and fifth century coins of Eretria have a heifer as their obverse type, and the animal was doubtless adopted for the coins of the League partly as a canting type, partly because she was originally Eretrian.

⁷ See hoard 3, p. 49.

⁸ It is a closely parallel case that Thasos, breaking away from Athens in this same year, changed the standard on which her coins were struck from the Attic to the Chian—see Head, *HN*³ p. 264, and A. B. West in "Fifth and Fourth Century Gold Coins from the Thracian Coast" (*Numismatic Notes and Monographs* 40, New York 1929) pp. 15–17 and 46–47.

⁹ But Chalkis and Karystos did not formally become allies of Athens until somewhat later—see p. 8.

¹⁰ See p. 73.

1*

been made for the formal establishment of the League and for the issue of its coins immediately upon the declaration by Chalkis and Eretria of their independence from Athens. This, after a postponement of some months, occurred after the Battle of Eretria, about September 411. That the mint, and so perhaps the meeting place, of the League was Eretria is less firmly established, but is clearly suggested by the League's adoption of Eretria's heifer (see note 6) as its reverse type, and by the quasi-identity of the types of the League with those of the autonomous bronze of Eretria when that city again issued coins in the late third and early second century B.C. It is also indicated by the fact that while the other three cities of the island all issue their own silver in the second half of the fourth century and later, contemporaneously with the issues of the League, there is no Eretrian silver until the second century—Eretria seems to have maintained the league as a fiction after the other cities had more or less abandoned it: at least Eretria's lack of coins in the late fourth and earlier third centuries is certainly not due to poverty or weakness, for the inscriptions and other antiquities found on the site show that the city flourished at this period and was, indeed, the most important of the Euboian towns.¹¹

One of the first things that the Euboians did after their revolt from Athens was to narrow the Euripos until there was room for only one ship to sail through, and to build a bridge across connecting Chalkis with Boiotia, for, says Diodoros, they were afraid that the Athenians might use their control of the sea to blockade the island.¹² The motive assigned for the building of the bridge was doubtless also the reason for the formation of the Euboian League; and the construction of the bridge, which was undertaken, as Diodoros emphasizes, by all of the Euboians together, was probably the first act of the new federation. The Athenian reaction was immediate but ineffective—Theramenes was sent out with thirty ships, and so with some 6000 men, but found himself outnumbered, and retired. There was another Athenian

¹¹ Imhoof-Blumer was the first to call Eretria the mint of the Euboian League: "C'est à l'atelier d'Érétrie qu'il faut attribuer les monnaies frappées au nom des Eubéens"—*Monnaies grecques* (Leipzig 1883) p. 223. For the prosperity of Eretria and the view that it was generally a more important place than Chalkis, see my "Demes of Eretria," *Hesperia* 16 (1947) p. 115, note 1.

¹² Diodoros XIII 47.

general, Eukleides, at Eretria during the winter 410/09, and although it is impossible to determine the exact circumstances, it is clear that Athens conducted some restricted military operation here.¹³ The activities of this year and a half—the fortification of the Euripos and the fighting at Eretria—were doubtless the occasion of the first issue of the Euboian League—the didrachms with a lying cow and EYB on the obverse, and a nymph's head on the reverse. It is probable that at this early stage in its existence only Eretria and Chalkis belonged to the League; between them they controlled most of Euboia, and they doubtless hoped that the other cities would join them, but Histiaia could not do so as yet, and, as we shall see, Karystos probably would not.

When Lysander destroyed the Athenian fleet at Aigospotamoi in April of 405/4, there were two Euboians, and only two, among his subordinate generals—Aristokles of Karystos, and Autonomos of

¹³ See *IG I²*, 304A = Dittenberger, *Sylloge Inscriptionum Graecarum*² (Leipzig 1915) no. 109 = Tod, *Greek Historical Inscriptions I*² (Oxford 1946) no. 83. This inscription carries the accounts of the Treasurers of Athena for 410/09; line 17 records an ἀνομολόγημα payment (i.e., a sum both collected and spent by the general—see B. D. Meritt, H. T. Wade-Gery and M. F. McGregor, *The Athenian Tribute Lists III*, Cambridge, Mass. 1950, p. 365) of 3740 drs., 1 ¼ obs., in the sixth prytany, that is, early in 409, to the “στρατηγῶν ἐκ τῆς Ἐρετρίας : Εὐκλείδῃ.” Geyer (in *RE Supp. IV* p. 439) is surely mistaken in treating this entry as evidence that the city of Eretria was again under Athenian control in 410/09, but it may well be that an Athenian force held out there for some time, for Thucydides’ account shows that the Athenians retained a foothold in the city when it rebelled (VIII 95: “τὸ τεῖχος τὸ ἐν τῇ Ἐρετρῷ” seems to mean either the citadel or perhaps a fortified building at the harbor where the Athenians had apparently kept a small squadron of ships (VIII 95.3) — cf. the situation at Torone (IV 113); in *ATL III* p. 295, note 100, the τεῖχος is called “a fortified stockade in the plain,” partly because of the theory that an Athenian kleruchy had been sent to Eretria in 446; it is true that ἡ Ἐρετρία is regularly used in *Eretrian* inscriptions for the whole Eretrian territory, but here ἐν τῇ Ἐρετρῷ seems more likely to mean “in the city of Eretria.” Eukleides may have been the commander of an Athenian garrison at Eretria which had now returned (this would explain the preposition ἐκς —translated “at” in *ATL III* p. 365—and also, perhaps, the fact that Eukleides had collected this odd sum himself instead of receiving a payment direct from the Hellenotamiai); he may have been the general sent out to rescue the garrison; he may even, as Dittenberger and Tod suggest, have been a general sent to recover the rebellious cities of Euboia, but in this case he must have received other sums in addition to the ἀνομολόγημα recorded here, and the coins prove that he did not succeed.

Eretria; their statues were set up along with the twenty-eight others in Lysander's great dedication at Delphoi.¹⁴ It is interesting and probably significant that there is no Chalkidian (or Histiaian) among these generals. The probable explanation is that the Eretrian Autonomos commanded the whole squadron of the Euboian League, and that Karystos, although it sent ships to Lysander, did not belong to the League. This, if so, is not surprising; there was no road over the mountains to connect Karystos with the other cities, and by sea Athens was as close as Eretria and Chalkis; it must have seemed very unsafe to the Karystians to take any steps of their own volition which Athens might hold against them in the future. They could plausibly maintain that Lysander had left them no choice about declaring their independence and about fighting at Aigospotamoi, but joining an anti-Athenian Euboian League would be less easily excused if Athens should ever again be in a position to resent it. Ever since the Persian wars Karystos had been forced by its exposed situation to pursue a cautious policy. There was also no Histiaian among Lysander's generals, but the Histiaians had only recently returned to their homes, and the city was probably still weak and disorganized. Thus the fact that there was no Histiaian general in Lysander's fleet probably means that there were no Histiaian ships, not that Histiaia belonged to the Euboian League and so, like Chalkis, did not have a general of its own. This city, like Karystos, had no good land connection with central Euboia (there is still none to-day): its closest neighbors were the states of the Maliac and Pagasaian Gulfs. Moreover its citizens (who were originally Elloprians or Perhaibians, that is Aiolians, not Ionians) had for a generation been living in Thessaly, whence they had come before the time of Homer, and can have felt little Euboian patriotism. Aside from these general considerations, there is one piece of definite evidence: soon after 404 Histiaia made an alliance with Eretria,¹⁵ which would surely

¹⁴ Plu. *Lysander* 18, and Paus. X 9. 10 (where the full list is given). The base of Autonomos' statue has been found, inscribed Αὐτόνομος / Σαμίου / Ἐρετριεύς (see *Syll.*³ 115 and the references collected *ad loc.*). He perhaps owed his name to the enthusiasm of the Euboian revolt of 446; if so he was now forty-two years of age.

¹⁵ *IG* XII, 9, 188: the terms of the alliance are lost, and what is left of the text merely provides for its ratification, its renewal each Olympiad, for penalties if it is broken, and for its publication both at Histiaia and at Eretria. The

have been unnecessary if the city had just become a member of the Euboian League. We may accordingly conclude that the only members of the League in the first decade of its existence were Eretria and Chalkis; they undoubtedly hoped that Histiaia and Karystos would sooner or later be persuaded to join them.

Autonomos of Eretria was probably, then, in command of the squadron sent by the League to assist Lysander, and the existence of the League will explain the lack of a commander from Chalkis. Autonomos would naturally pay his men in the League's currency. We have here an obvious occasion for the second issue of didrachms on the Aiginetic standard, this time with the head on the obverse—an occasion which exactly fits the numismatic requirements; it is a few years later than the occasion of the first issue in 411/10, and this difference in date is demanded by the slightly better condition of the coins of the second issue in the Euboio-Boiotian hoard of 1951;¹⁶ it is also a rather more important occasion, probably involving the payment of more men for a longer period, and this fits well with the somewhat more numerous dies and considerably larger number of preserved specimens of the second issue. There need be little hesitation in dating the two issues of didrachms in 411/10 and 405/4 respectively.

occasion of the alliance may well have been an invitation from Eretria to join the Euboian League; Histiaia perhaps replied that she did not wish to join the League but was quite willing to make a separate treaty with Eretria. The date given by Ziebarth *ad loc.* (it was Wilamowitz' suggestion) is between 410 and 390; but as Histiaia was probably still in Athenian hands until 404, the inscription will be later than that, and there is no good reason for fixing on any particular date as the *terminus ante quem*. If we had reason to suppose that Histiaia was a member of the Euboian League in the last years of the fifth century, it might be possible to date the inscription after 395, when the League seems to have become a dead letter (see below). But it is more likely, both on general considerations and because of this inscription, that Histiaia was not a member, and that the alliance should be dated soon after 404. It may be mentioned here that the first word of the text—[-ποι]ῆσαν is wrongly read by Ziebarth, and is not corrected in *IG XII, Supp.* Examination of the squeeze in the collection of the Institute for Advanced Study in Princeton convinced me that Eustratiades' original reading of K is more likely than Σ—X is also a possibility, but the single diagonal stroke which is all that is left of the letter seems too high and steep to be the lower hasta of sigma. And apart from this doubtful reading, the inscription shows consistent rhotacism, so that sigma here between two vowels would be surprising.

¹⁶ See p. 49. These coins are also stylistically more advanced than those of the first issue.

The Fourth Century

We know little of the history of most minor Greek states except where their relations with Athens bring them momentarily to the attention of Athenian writers; what the Athenians either chose to ignore or considered unimportant is recoverable only by inference or through the bright pin points of light provided by inscriptions and, sometimes, by coins. Such is the fate of the Euboian League in the fourth century; it is referred to specifically only once—when Kallias of Chalkis resurrected or re-invigorated it in 341/0—and we are otherwise dependent for proof that it existed on the fortunately unambiguous evidence of the coins. The knowledge, however, that it did exist makes a number of events more intelligible, and makes it possible to see a certain unity in the otherwise disconnected scraps of information which we possess about Euboian affairs.

Agesilaos collected at Geraistos the fleet which he took to Asia in 396. What repercussions this may have had in an already disaffected Eubolia we do not know, but the fact that late in 395/4 ἡ Εὐβοία ἄπασα¹⁷ fought beside the Boiotians, Athenians, Corinthians, and Argives at the Battle of Corinth shows that the island was no longer under Spartan control, and to the same summer, early in 394/3, belongs the formal alliance between Eretria and Athens which has survived to the present day as *IG* II², 16 (= Dittenberger, *Syll.*³ 123, and Tod, *Gr. Hist. Insc.* II, 103). Curiously enough it was not until just after the formation of the Second Athenian League some sixteen years later in 378/7 that Chalkis made a similar alliance with Athens (*IG* II², 44 = *Syll.*³ 148). Karystos joined the Athenian League along with Eretria and Chalkis in 378/7.¹⁸ Histiaia made an alliance with

¹⁷ Diodoros XIV 82. The same phrase recurs in Xenophon *Hell.* IV 2. 17, where it is recorded that in the army opposed to the Spartans at the Battle of Corinth there were no fewer than three thousand troops ἐξ Εὐβοίας ἀπάσης.

¹⁸ Πρῶται δὲ καὶ προθυμώτατα συνεμάχισαν αἱ κατὰ τὴν Εὐβοίαν οἰκούσαι χωρὶς Ἑσπίας (Diod. XV 30). For the exact date see Silvio Accame, *La lega ateniese del secolo IV A.C.* (Roma 1941) pp. 70–74. The decree of Aristotle on which the names of the Euboian cities all appear is *IG* II², 43 = *Syll.*³ 147 and Tod, *GHI* II, 123. The Chalkidians, the Eretrians, the Arethousioi, the Karystians and the Ikioi were all inscribed by the same hand, as Accame says, and he suggests that the reason is that they happened all to be admitted at the same meeting of the Assembly. If so, this identity of date is possibly an indication that the three Euboian cities were pursuing a common policy as a

Eretria some time soon after 404, as has been mentioned, but seems thereafter to have suffered from a succession of tyrants and Spartan harmosts; it did not join the Athenian League until 376/5. Dion and Athenai Diades, small places in the north of the island now temporarily independent of Histiaia, had joined a year earlier.

Thus in the first twenty-five years of the century we have evidence only during the Corinthian war, and in 378/7, for the pursuit of a common foreign policy by the cities of Euboia. Even during the Corinthian War there is no reference to the League in the treaty between Eretria and Athens,¹⁹ and it seems that Chalkis did not make a similar treaty at the same time. We can only conclude either that the League was so loose that it did not coordinate the foreign policies of its two (?) members, which seems unlikely, or else that it ceased to be effective about the time of the alliance between Eretria and Athens in 394. This is the probable explanation, for Athens undoubtedly preferred to ignore a league which had been formed to oppose her and which could only complicate in an undesirable manner her relations with Euboia.²⁰ Moreover, after 387 a Euboian League might have seemed incompatible, to some extent, with the principles of the Peace of Antalcidas.²¹ But, as the coins and certain other considerations indicate, the League was not formally dissolved; Eretria and Chalkis no longer needed each other's support against Athens, Histiaia and Karystos had failed to be attracted by the

result of agreement among themselves, and this might have been secured through the League. But the evidence is slim, and it is unlikely (see below) that Karystos belonged to the Euboian League.

¹⁹ This point must not be pressed; there is also no reference to the League in the treaty of alliance between Eretria and Athens of 341/0, the year in which Kallias of Chalkis revived the Euboian League—but it is possible that the alliance antedated by a few months the reconstitution of the League. See p. 17.

²⁰ There is an interesting parallel between Athens' unwillingness to recognize the Euboian League in the early fourth century and Sparta's unwillingness to recognize the Arkadian League in the early fifth—if I am right that an Arkadian League existed at that time. See "Kleomenes, Marathon, the Helots, and Arkadia" in *JHS* 74 (1954) pp. 32–35. In both cases the member states did not, for a considerable period, strike coins in their own names (l.c., p. 34, note 23).

²¹ As the Boiotian League certainly was: the decree of Aristotle in 378/7, for instance, firmly admits the Thebans, not the Boiotians, to the new Athenian League. There is an excellent analysis of Thebes' position at this period in Accame's *Lega*, pp. 17–26.

federal idea, and Athens was opposed to it; there was accordingly probably no more talk of the Euboian League after 395, but it existed 'on paper'; it lay dormant until its members should find some advantage in reviving it.

There are two small issues of tetradrachms of the full Euboio-Attic weight, with accompanying fractions, which both style and the evidence of hoards place about the beginning of the century,²² and which may accordingly be dated about 400 and 395 respectively. The change from the Aiginetic to the Euboio-Attic standard must obviously come between the League's cooperation with Lysander in 404 and its participation in the Corinthian War against Sparta (a change of policy sealed by the alliance between Eretria and Athens) in 394. For the next half century there is little sign of common action by the cities of Euboia, and there appears to be a corresponding gap in the coinage of the League. No further staters were issued, and when the drachms reappear they are much later in style and lighter in weight, although the types are unchanged: the coinage shows a wide gap in an obviously continuing series.

Karystos seems to have been steadily faithful to the Athenian alliance until after the Battle of Chaironeia (and indeed until after the Lamian War), but the participation of Eretria, Chalkis and Histiaia in the Second Athenian Confederacy was destined to be spasmodic. Thebes was close and rapidly growing in strength; it is not surprising that soon after Leuktra in 371 Eretria and Chalkis deserted Athens for this new ally. Thebes may have had some difficulty in securing consistent support in these cities—at least there apparently were tyrants in both of them in the sixties, Mnesarchos at Chalkis²³

²² The wear of the seven specimens of these tetradrachms which occurred in Hoard 1 is similar to that of the three stylistically earlier didrachms; hoard groups 7 and 11 point in the same direction. The tetradrachms should accordingly be dated later, but not much later, than the didrachms, which were struck in 411 and 405. We have just seen that there are historical considerations which suggest that they should come before 394; on purely stylistic grounds both Head and Babelon attributed them to the early fourth century.

²³ Aischines 3. 85 refers to the Athenians as πολλὰ καὶ μεγάλ' ἡδικοῦμένοι ὑπὸ Μνησάρχου τοῦ Χαλκιδέως, the father of Kallias and Taurosthenes whom Demosthenes later proposed for Athenian citizenship. As Aischines goes on in the same sentence to mention Themison (see note 24), the date of Mnesarchos' injustices is probably before 366, and it seems likely that the *terminus post quem* is 371, both because Athenian influence was obviously strong in the seventies

and Themison at Eretria,²⁴ who were perhaps installed and maintained by the Boiotians. But according to Xenophon, Εὐβοεῖς ἀπὸ πασῶν τῶν πόλεων fought on the Boiotian side at Mantinea, where they were roughly handled by the Athenians on the wing opposed to them.

After the Battle of Mantinea Theban influence in Euboea naturally declined, and the island became a temptation to Athens. Στάσις broke out in the Euboian cities between the pro-Theban and pro-Athenian parties, resulting in a number of indecisive skirmishes,²⁵ and when Thebes made a definite attempt to recover her position the Athenians promptly sent out a military and naval expedition which drove the Boiotians out in about a month. This brief war is placed in 358/7 by Diodoros, and probably belongs in the early summer of 357;²⁶ it was possibly the occasion of a small issue of coins by the Euboian League (see pp. 85–87).

and because Mnesarchos' tyranny (?) should not be too much earlier than that (?) of his son Kallias. These are reasonable considerations, but the truth is that we do not actually know either the date of Mnesarchos' activities or that he was a tyrant at Chalkis.

²⁴ Diodoros XV 76 (under the year 366/5) says that Themison, tyrant of Eretria, seized Oropos from the Athenians, and that when they attempted to recover the place the Thebans came to his assistance, accepted the town ἐν παρακαταθήκῃ and kept it. This leaves one in some doubt about Themison's relation to the Thebans. Aischines (2.164 and 3.85) and Demosthenes (18.99) both refer to the event, but throw no further light upon it.

²⁵ Diodoros XVI 7.2.

²⁶ *IG* II², 124 (= *Syll.*³ 190, and Tod, *GHI* II, 153) is a document definitely dated in 357/6, the lost first part of which clearly contained an alliance between Athens and Karystos resulting from this war; the inscription also mentions the negotiation of probably similar alliances with Eretria, Chalkis, and Histiaia. It is natural that this diplomatic activity should occupy the later part of the summer in which the war was fought, and so fall in the next archon year. Kahrstedt (*Forschungen zur Geschichte des ausgehenden fünften und des vierten Jahrhunderts*, Berlin 1910, p. 69) assumed that the inscription shows Diodoros' date, 358/7, to be a year too early. Dittenberger in his notes *ad loc.* also held that Diodoros was mistaken, but based his view on the fact that Diokles, one of the generals who swear to the alliance in 357/6, also as general made the truce which closed the actual fighting against Thebes (Demosthenes 21.174). Diokles, otherwise known only because he was a trierarch on several occasions, is not likely, he thinks, to have been a general for two years in succession; therefore the war must fall in the year of the alliance with Karystos—357/6. Dittenberger has usually been followed in this, most recently by Tod (*l.c.*), but the argument is very weak indeed. Many generals were re-elected, and Diokles may have been one of them; the fact that we do not

As a result the Euboian cities again joined the Athenian League. The alliances of Eretria, Chalkis, and Histiaia with Athens had obviously lapsed during the decade of Theban supremacy,²⁷ and, for whatever reason, Athens now also renewed her alliance with Karystos. None of the actual documents has survived, although *IG II*², 124²⁸ is the lower part of the stone which once carried the alliance with Karystos, and *IG II*², 125 (Tod, *GHI II*, no. 154) is a strong guarantee to Eretria, made specifically for her but generalized to apply to any member of the League, against attack by Athens or by any of her allies. The guarantee was perhaps the price demanded by Eretria for her re-entry into the Athenian League.²⁹ Another document, how-

happen to know (otherwise) that he was re-elected is a poor reason, by itself, for correcting Diodoros. Indeed, as we know that the campaign lasted for a month and that peace negotiations always take time, it would be rather surprising if both the campaign and the resulting treaties all belonged to the second half of the summer. Diodoros' date should be accepted.

²⁷ Koehler's view, adopted by Dittenberger (*Syll.*³ 190, note 4), that these treaties were somehow still operative is surely wrong,—at Mantinea, for instance, the Euboians and the Athenians not only fought on opposite sides, but fought against each other. Thebes and many of her allies had left the Athenian Confederacy (Accame, *Lega* p. 178), although none of the names was erased on the great stele which carried the decree of Aristotle.

²⁸ Tod's comments on this inscription (in *GHI II*, p. 158–161) require two minor corrections. In the first place he assumes that the taxiarchs, generals, and *boule* mentioned in lines 6 and 7 are Athenians; they must however be Karystians, as is shown by the natural run of the words, by the omission of taxiarchs from the list at the end of the inscription of the Athenians who swore the oath, and by the analogy of *IG II*², 230b (which Tod mentions) where the Eretrians who swore to the treaty of 341/0 with Athens were the generals, a hipparch (Karystos would hardly have had cavalry), the taxiarchs, and the *boule* (see the revised text of this inscription in *Hesperia* 16 (1947) p. 145—where Μᾶθ in line 6 is a misprint for Μινθ). And Tod follows Kahrstedt and Dittenberger in calling Diodoros wrong about the date (see note 26).

²⁹ Against whom was it intended? Clearly not against Thebes, not now an ally of Athens, or against Macedon, which was neither an ally nor as yet obviously dangerous; and not against the present governments of Chalkis or Karystos, her nearest neighbours, for similar alliances were being made with them—indeed the Karystians seem in the last few mutilated lines to be praised for helping Eretria, and the occasion of this help must be the kind of occasion for which the guarantee is being made. The attack envisaged is an attack by some city allied with Athens, and Eretria must have considered the danger serious or such a guarantee as this would not have been demanded. Perhaps Mnesarchos, tyrant (?) of Chalkis in the sixties, had attacked Eretria and been held off by timely aid from Karystos; κατὰ Μνήσαρχον would fit the lacuna in line 22 of *IG II*², 125, and although he was no longer tyrant at Chalkis—the

ever, of about the same date as these—*IG II²*, 149—is both more interesting for our present purpose and more difficult to interpret. It is an Athenian decree making two men, —*ἡριτος* and *Ἡρακλειδωρος*³⁰ *proxenoi* and *euergetai* of Athens, apparently for their services in helping to negotiate an alliance with “the Euboians.” The inscription begins with the broken end of a sentence: ἡ συμμαχία τῷ δήμῳ / [τῷ Ἀθηναίων καὶ τοῖς Εὐβοιεύσιν, and later there is a reference to [-τοὺς πρέσβεις? το]ὺς ἐκ τῶν συμμαχῶν. This is the closest we come to discovering any common action by the Euboians during the decade, and unfortunately neither the date nor the interpretation of the inscription is certain.

For a few years now while Athens was engaged in the ‘Social War,’ while Philip consolidated his power in Macedonia and invaded Thessaly, and while the rest of Greece took sides in the first campaigns of the Sacred War, we lose sight of Euboian affairs; it may be that although surrounded by fighting, the island enjoyed a few years of comparative calm. But in 351 Philip sent letters to the Euboian cities warning them not to rely for safety upon their alliances with Athens (*Dem. Phil.* 1.37): his agents and his gold followed close upon his letters, and, although we know no details, it is clear that pro-Macedonian parties sprang up in all the cities except, perhaps, Karystos.

Karystos at this time still stood a little apart from the other cities; its position made it less open to Theban influence, and more open to Athenian. The coinages of Karystos and Chalkis are greatly in need of further study, and their issues have not been dated with any accuracy. It is fairly clear, however, that Karystos’ fourth century coins begin earlier than those of Chalkis (which, like the Euboian League coins, have been dated too early) and were probably being struck about the middle of the century. At Eretria no coins were issued; perhaps the Eretrians still clung to the theory that the League Athenians had given their constitutions back to the Euboian cities *ὁρθῶς καὶ δικαίως* (Aischines 3.85)—the danger still existed, for his son Kallias later succeeded to the father’s position. If so the Eretrians may have wished for security against similar attacks in the future.

³⁰ See A. M. Woodward in *JHS* 28 (1908) pp. 303–307, and Tod, *GHI II*, p. 161: the only known Euboian whose name ends in *-ἡριτος* is an Ἀμφήριτος who was buried at Histiaia; the name *Ἡρακλειδωρος* is known, in Euboea, only at Eretria, but Aristotle refers to a prominent Histiaian of uncertain date called Ἡρακλειδωρος.

existed, and that one of its prerogatives was coinage. Histiaia had never had a mint. Its history during these years is obscure, but at least we know that its first coins were not struck until about 340.³¹

Philip had prepared the ground, and could stir up trouble in Eubolia whenever it suited his convenience to do so; the moment came in 349/8. The obscure course of events during this year should, I think, be reconstructed as follows.³² Philip was attacking Olynthos and was anxious to prevent Athens from moving. He accordingly employed an Eretrian named Kleitarchos, subsequently tyrant of the city, to engineer a revolution against Ploutarchos, the tyrant of the moment, who seems to have been playing a lone hand, depending for his support on mercenaries. Ploutarchos found himself faced with a pro-Macedonian revolution at home and an aggressive and seemingly pro-Macedonian neighbor, Kallias, at Chalkis; as Philip intended, he appealed to Athens for help. In spite of Demosthenes' insistence that Athens should conserve her resources for the major conflict, a small expedition of cavalry and ἐπίλεκτοι was sent out under Phokion to support Ploutarchos. He had apparently already been driven from Eretria, but met Phokion at Tamynai where the two of them were faced by considerable forces ἐξ ἀπάσης τῆς Εὐβοίας ...

³¹ It is possible, perhaps even probable, that the considerable sums (amounting to about 11 talents) which Karystos borrowed in the sixties, for some unknown reason, from a number of individual Thebans and Histiaians (*IG XII*, 9, 7) were re-minted by the city, for otherwise the money would clearly have been in inconveniently miscellaneous coin; if this is correct we have here a rough date for one (perhaps the first) of Karystos' fourth century issues which will have amounted to at least 65,000 drachms—the only denomination struck by Karystos in the fourth century. For the first issue of Histiaia, see E. T. Newell, *The Octobols of Histiaia*, *NNM* 2 (New York 1921). Chalkis' fourth century issues can only be dated accurately by a careful study of the pertinent hoards, which has not yet been undertaken. Meanwhile it may be pointed out that none of the series seems to have been struck at a higher weight than about 3.75 grammes, while the first four of the lighter weight issues of the Euboian League—those with no symbol, and those with the grapes, kantharos, and lyre—all weigh more than this, only the satyr's head and dolphin groups being so light in weight, and these probably date, as will be seen, early in the third century. There is no certainty, however, that there was any relation between the weights of coin issues at Chalkis and at Eretria; indeed we know that one group, at least, of the Chalkis drachms must have been struck about, or not long after, the middle of the century (see p. 21).

³² See 'Note on the Campaign of 349/8,' p. 42.

καὶ παρὰ Φιλίππου³³ under Kallias and Kleitarchos. Ploutarchos deserted to Kallias and Phokion was hard pressed; he summoned reinforcements from Athens and meanwhile won a respite by a successful limited action which gave him prisoners to bargain with. When the reinforcements arrived he entered Eretria, drove out both Kleitarchos and Ploutarchos, restored the democracy, and established a fort at Zaretra at the narrowest point of the island in the southern part of Eretria's territory. He then returned, leaving Molossos in command (of a garrison at Eretria?). Ploutarchos apparently rallied his followers, went back to Eretria, captured Molossos, and came to terms with one Hegesilaos, who seems to have been sent out on the news of Molossos' misadventure. Although Ploutarchos now treacherously handed over some Athenian prisoners to his mercenaries who held them to ransom, Athens swallowed her pride and paid the price, for she was by this time too heavily involved in the north to send more expeditions to Euboea. The Euboians, anxious to consolidate their gains, sent ambassadors to Athens and managed to arrange a peace on terms of the *status quo*.

If this reconstruction of the events is correct, it is clear that the role played by Ploutarchos requires explanation. He first asks for Athenian support against Kallias and Kleitarchos, and then deserts to their camp; the Athenians throw him out of Eretria but he returns, captures the Athenian commander and treacherously allows Athenians to be held to ransom. In short he begins as anti-Macedonian but becomes reconciled to Kallias (and to Kleitarchos?—or did Kallias agree to support him against Philip's agent?) and is then strongly anti-Athenian. To Demosthenes and Aischines everyone is either pro-Athenian or pro-Macedonian, but if we had Euboian sources we should doubtless see things differently. The probability is that both Ploutarchos and Kallias were first of all Euboians, and that Kallias—

³³ Aischines 3.87: Φιλίππου was emended to Φαλαίκου by Schulz in *Jahrb. Philol.* 1886, p. 314, because of the Φωκικούς ξένους mentioned a few lines farther on, and the emendation was approved by Beloch. As we know, however, that Ploutarchos had appealed to Athens for help against Macedonian aggression (Plu. *Phokion* 12) and that Kleitarchos became tyrant of Eretria a few years later with aid from Philip, it is natural that Philip should have sent aid against Ploutarchos in this campaign, and there is no reason to emend the text.

who a few years later reconstituted or reinvigorated the Euboian League and was at the moment in command of forces ἐξ ἀπάσης τῆς Εὐβοίας—won Ploutarchos over by urging that Euboians should stick together against outside interference whether from the north or from the south. When Aischines mentions the ambassadors who came to Athens to make peace after this war, he calls them οἱ πρέσβεις οἱ τῶν Εὐβοέων and says that they brought a message from Philip; this may mean only “both the Eretrians and the Chalkidians, one or both of whom brought a message from Philip,” but it is more likely to mean that a joint embassy conducted the negotiations.³⁴ This, if the above outline is correct, is what we should expect.

There was, obviously, no effective League while Chalkis and Eretria were both under tyrants and at loggerheads with each other. But it seems that Theban, Athenian, and Macedonian intervention in the island had produced its natural reaction: the Euboians wished to be left alone and were now more ready to cooperate with each other than they had been for many years.

Kallias may have believed, as Kahrstedt suggests, in “Euboia for the Euboians;” or he may only have intended to secure for himself a kind of hegemony in the island. In any case his policy had so far led him to accept help from Philip, and to fight against the Athenians. But Ploutarchos at Eretria soon fell, and Kleitarchos, aided by Macedonian troops, became tyrant of the city in Philip’s interest. We know nothing of the circumstances; the date of Kleitarchos’ seizure of power was 343. A few months later and in much the same way Philistides became tyrant of Histiaia.³⁵ Kallias retained his position at Chalkis as leader or tyrant—it is not quite clear which³⁶—but his policy appears to have changed (Aischines refers to him as πλείους

³⁴ Aisch. 2.12: οἱ πρέσβεις οἱ τῶν Εὐβοέων ἐπειδὴ περὶ τῆς πρὸς αὐτοὺς εἰρήνης τῷ δήμῳ διελέχθησαν, εἶπον ὅτι καὶ Φίλιππος αὐτοὺς κελεύσειεν ὑμῖν ἀπαγγεῖλαι, ὅτι βούλεται . . . etc. The reference is securely dated to 348; the terms of the peace, if indeed a peace resulted (Grote doubted it, and Chalkis, at least, seems not to have rejoined the League—see note 40), are unknown.

³⁵ See Kahrstedt’s excellent discussion of the chronology of these events in *Forschungen zur Geschichte des ausgehenden fünften und des vierten Jahrhunderts*, pp. 72–78. Beloch’s objections to Kahrstedt’s chronology have been answered by R. Wüst in *Philipp II von Makedonien und Griechenland*, p. 112, n. 3.

³⁶ Aischines is definite enough — αὐτῷ τυραννίδα περιποιούμενος, etc.—but his terminology is not evidence.

τραπόμενος τροπὰς τοῦ Εὐρίπου), for the rapidly growing danger from Macedon now inclined him to look for Athenian support. Karystos was still free and still allied to Athens.

In 341/0 Kallias, with Demosthenes' assistance, persuaded the Athenians to send an expedition to help him in driving out the Macedonian-supported tyrants at Histiaia and at Eretria; the expedition was successful (Phokion was again commander of the Athenian forces at Eretria), and democracy was restored in both cities.³⁷ The Athenians doubtless expected that the Euboian cities would now return to the Athenian League, of which they were perhaps still formally members, but Kallias had other ideas. His immediate purpose accomplished, he was now anxious not to put Euboia too firmly in the Athenian camp. He revived the Euboian League, and persuaded the Athenians to accept the withdrawal of the Euboian cities from their Confederacy while retaining them as allies. Of the treaties of alliance, one—the treaty between Athens and her allies on one side and Eretria alone on the other—has survived in part; enough is left to show that Athens was still dealing with the cities of Euboia individually in spite of Kallias' resurrection of the League.³⁸

It is unfortunate that we should be dependent on a single highly

³⁷ Schol. Aisch. 3.103. With what enthusiasm the Eretrians recovered their liberty after an almost continuous succession of tyrants for the last quarter of a century (we know the names of Themison c. 366, Menestratos c. 352, Ploutarchos c. 350–346, Hipparchos 345–4 (?), Automedon 345–4 (?), and Kleitarchos 343–340) may be read in the "Artemiria Decree"—IG XII, 9, 189—which reformed the great festival of the Eretrian state, and laid down regulations for its observance εἰς τὸν ἀεὶ χρόνον, ἐλευθέρων ὄντων Ἑρετριέων καὶ εὐπρηττόντων καὶ αὐτοκρατόρων.

³⁸ IG II², 230 *a* + *b* (for part *b* see note 28). See the full and clear account of these events in Accame, *Lega* pp. 212–221, "La lega ellenica di Demostene." It is fairly clear that Kallias produced the idea of the Hellenic League (which later opposed Philip at Chaironeia), and that Athens and her allies and the Euboian cities were its first members. Demosthenes accepted and adopted the new principle, and he and Kallias visited the Peloponnese together in 341/0 collecting allies and making the idea a reality. Accame does perhaps rather less than justice to Kallias in his account of these proceedings. And I am not convinced that it was the Euboian *League*, as opposed to the Euboian *cities*, which entered the Hellenic League. The theory that this latter was a "league of leagues," which Accame accepts from P. Trèves' article in *Rev. des Etudes Anc.* 37 (1935) pp. 66f., goes rather beyond the evidence, as Cloché's account in *La politique étrangère d'Athènes* (Paris 1934) pp. 280–284, where the 'Hellenic League' is not recognized as a league at all, makes rather too little of it.

colored passage in Aischines for our information about the reconstitution of the Euboian League.³⁹ However, it is clear that the cities of Euboea now withdrew—if withdrawal was necessary—from the Athenian Confederacy, that the Euboian League was now *re*-constituted (not founded for the first time), that the delegates were to assemble at Chalkis, and that contributions were to be made to a common treasury; we need not, however, believe either that Eretria and Histiaia had each been paying five talents annually to the Athenian Confederacy, or that these rather large sums were now to be paid in to a Euboian treasury.⁴⁰ Indeed it is rather surprising to find the League assembly convened at Chalkis; did its coins continue to be struck at Eretria? The only reasons to believe that they were ever issued there are, as has been said, the lack of Eretrian coins in the late fourth and third centuries when the other three Euboian cities had their own issues, and the close approximation, in the late third

³⁹ Aisch. 3.85–101; the most informative sentence reads as follows: εἰς γὰρ τοῦτο προήχθη Καλλίας μὲν ὁ Χαλκιδεὺς ὑβρεως καὶ πλεονεξίας, Δημοσθένης δὲ ὃν ἐπαινεῖ Κτησιφῶν δωροδοκίας, ὥστε τὰς ἐξ Ὠρεοῦ συντάξεις καὶ τὰς ἐξ Ἐρετρίας, τὰ δέκα τάλαντα, ζώντων φρονούντων βλεπόντων ἔλαθον ὑμῶν ὑφελόμενοι, καὶ τοὺς ἐκ τῶν πόλεων συνέδρους παρ' ὑμῶν μὲν ἀνέστησαν, πάλιν δὲ εἰς Χαλκίδα καὶ τὸ καλούμενον Εὐβοϊκὸν συνέδριον συνήγαγον. The fullest discussion of the passage is by Kahrstedt, *Forschungen* pp. 72–78. Kahrstedt is, of course, mistaken in thinking that the Euboian League was now founded for the first time. Quite apart from the evidence of the coins, πάλιν in the sentence just quoted is clear enough, while τὸ καλούμενον Εὐβοϊκὸν συνέδριον probably indicates that the “so-called” Euboian League had continued to exist in a shadowy manner from the time of its last activity early in the century. This is far more likely than, for instance, the explanation in R. B. Richardson's edition of the oration—“τὸ καλούμενον: with a slur at the insignificance of the Euboean council compared with the Athenian.” The point is, surely, the inactivity of an old league rather than the insignificance of a new one.

⁴⁰ These figures, known only from Aischines, are suspiciously similar and suspiciously high; what is more, it seems very improbable that the Euboian cities paid συντάξεις to the Athenian Confederacy after the fiasco of 349/8 and during the rule of pro-Macedonian tyrants. They seem more likely to be assessment figures of some kind than amounts ever actually paid; but they are taken seriously by Accame, *Lega* p. 137. Karystos is not mentioned because she did not join the Euboian League, but why does Aischines not mention the loss to Athens of συντάξεις from Chalkis? This can hardly be an oversight, and must mean that Chalkis had ceased to contribute considerably earlier than the others. Perhaps she had formally withdrawn from the Athenian League in 349/8, when Kallias was, in fact, at war with Athens, while the memberships of Eretria and Histiaia had merely been allowed to lapse.

and early second centuries, of the Eretrian and League types; these facts are not quite conclusive, but if the League mint was at Eretria they are intelligible, otherwise they are difficult to explain. Perhaps the συνέδριον now began to meet at Chalkis, while the mint continued to be at Eretria.⁴¹

Aischines' complaints about Athens' loss of revenue show that Histiaia belonged to the Euboian League as reconstituted in 340, although, as we have seen, it is improbable that she had belonged to it earlier. But Karystos, which seems not to have suffered at all from Macedonian interference, still did not join, as is shown by the silence of Aischines (see note 39) and as is also indicated by the fact that, fifteen years later, Karystos appears on the Athenian side in the Lamian War while the other cities of Euboia, along with the Boiotians, remained firmly on the Macedonian side; as late as 306 Karystos still appears as the ally of Athens in her brief war against Kassandros.⁴² The fact, however, that Karystos seems to have issued a considerable number of coins in the latter part of the century can hardly be taken as evidence of the pursuit of an independent policy,⁴³ for Chalkis was

⁴¹ Aischines 3.100: (Δημοσθένης) γράφει ἐλέσθαι πρέσβεις εἰς Ἑρέτριαν οἵτινες δεήσονται τῶν Ἑρετρίων, πάνυ γὰρ ἔδει δεηθῆναι, μήκετι δίδόναι τὴν σύνταξιν ὑμῖν, τὰ πέντε τάλαντα, ἀλλὰ Καλλία, καὶ πάλιν ἑτέρους εἰς ὥρεόν [πρὸς τοὺς ὥρεϊτας πρέσβεις], οἵτινες δεήσονται τὸν αὐτὸν Ἀθηναίοις φίλον καὶ ἐχθρον νομίζειν. What does πάνυ γὰρ ἔδει δεηθῆναι mean? This is a highly tendentious and rhetorical passage, yet some real Eretrian reluctance must underlie these words. I imagine that, through the energy and influence of Kallias, the center of gravity of the Euboian League—the word 'capital' would be anachronistic—had now shifted from Eretria to Chalkis, *in vitis Eretriensibus*. Aischines, of course, uses their reluctance as a stick to beat Demosthenes with.

⁴² *IG* II², 467 = *Syll.*³ 327.

⁴³ Regling, discussing those issues of the League and of the Euboian cities which he dates about the middle of the fourth century, held that the difference between Karystos' types and those of the other cities showed that at times Karystos, at least, did not belong to the League: "Atque nummis illis Chalcidis et Histiaiae magna similitudo in parte antica est cum foederis nummis, cum Carystii prorsus diversi sint. Quae cum ita sint, concludemus Carystum certis annis a foedere alienam neque ceteras urbes semper foedere coniunctas fuisse, quod rebus annis 357 sq. gestis comprobatur." (*IG* XII, 9, p. 172, Appendix De Euboeae Nummis). The exact dates of the fourth century coins of Chalkis and Karystos require further investigation, but both these cities and Histiaia certainly did strike some coins in the later fourth century. Regling's conclusion is, as we have seen, probably correct, but his implication that Chalkis and Histiaia used a nymph's head as their obverse type (this is the only similarity between their coins and those of the League) *because* they were members

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also striking in her own name. And although no Karystians appear among the *hieromnemes* from Euboea between 343 and 327, this is probably because they were not considered to be Ionians (see below), rather than because they were not members of the Euboian League.

At the Battle of Chaironeia, in 338, the Euboians undoubtedly fought with the other allies against the Macedonians, although no ancient author actually mentions the fact, and they equally certainly took part in the Congress of Corinth in the following year. We do not know what repercussions Philip's victory had in Euboea, but as the League continued to issue coins and is found flourishing at the end of the century, it is clear that it was not disbanded;⁴⁴ the diplomatic Kallias will have known how to ride the storm and to remind Philip that he had once fought on the Macedonian side against the Athenians. It is quite possible that Philip did not even establish a garrison at Chalkis to guard the Euripos, and that the Euboian League now acted, as it did later in the Lamian War and for the better part of the next century and a half, as the more or less willing instrument of Macedonian policy.

It is to the two years between the revival of the League and the Battle of Chaironeia that I should attribute the earliest of the large Euboian issues of lighter 'Macedonian' weight. The calculation based on the loss of weight in the Eretria hoard of 1937 indicates that the drachms without symbol and those with the grapes symbol belong roughly to this period. The question is discussed in Chapter 2; here it need only be said that the Euboian issues have certainly been dated

of the League seems doubtful. The "similitudo" probably seemed greater to Regling than it really is, because he doubtless accepted the usual mid-fourth century date for the Histiaian drachms, the reverse type of which is a standing cow; this dating, as I hope to show elsewhere, is too early.

⁴⁴ Arnold Schaeffer, in *Demosthenes und seine Zeit* (Leipzig 1887) vol. 3, p. 38, assumed that the League was disbanded soon after Chaironeia and that Kallias fled—"Es kann kein Zweifel sein, daß damit (i.e., when the Euboians came to terms with Philip after Chaironeia) der euboeische Bundesrat aufgelöst und das Regiment in den Städten der Insel an die makedonisch gesinnten übertragen wurde: ihre Gegner mußten die Heimat fliehen und fanden Aufnahme zu Athen"—here a footnote refers to the citizenship bestowed by the Athenians at an uncertain date on Kallias of Chalkis and his brother. But the coins show that the League continued; and Kallias was not clearly and simply an opponent of Philip: he could easily represent his policy as essentially anti-Athenian. The citizenship need not mean residence at Athens.

too early in the past,⁴⁵ and that they must fall on either side of 300, rather than of 350, B.C. From the historical point of view it is fairly clear, as we have seen, that issues of coin by the Euboian League would be rather surprising at almost any time between 395 and 340, but that some issue is almost demanded by the course of events between 340 and 338. We need have little hesitation, then, in placing the first large issues of lighter weight exactly at the period of the resurrection of the League and the Battle of Chaironeia.⁴⁶

It is rather surprising to observe that Chalkis appears to have been striking its own coins during the first decade of the reconstituted League. This is suggested, at least, by the appearance of a δραχμή Χαλκιδική in the Eleusinian accounts of 329/8 (*IG* II², 1672, line 300), although that coin may have come from an issue struck earlier than 341/0. The coinage needs further investigation, but if Chalkis was striking its own coins at the time, and if Eretria's right to strike for the League had been recognized from the beginning and exercised fairly recently (in 357?—see page 87), Kallias may have been content to acquiesce in the *status quo* and to conciliate Eretrian opinion, which was probably somewhat hostile to him, by allowing the League's mint to remain at Eretria.

The reign of Alexander the Great was probably another peaceful period in the history of Euboia. We know only that two of his most trusted followers were honored at Eretria.⁴⁷ Antipater, of course,

⁴⁵ Mme. Varoucha was the first scholar to recognize this; see *Epitymbion Tsounta* (Athens 1941) p. 672, where she publishes a preliminary description and discussion of the Eretria hoard of 1937, and shows that the League coins with the dolphin symbol must belong to the third century. The old dates were 387, or 378, or 369, to 338; this terminus was queried by Regling (*l.c.* in note 43), but with many scholars it has been a kind of article of faith that the Macedonians did not allow independent coinage in the states which they dominated. For a full discussion of the dates of the Euboian issues, see Chapter 2.

⁴⁶ There is a small issue of lighter drachms in high relief which is probably earlier than 340; it must, however, have been an extremely small issue—only a dozen specimens are known and they are all from two obverse dies—so that one should not look for an important military occasion to explain it. See Chapter 3, pages 85–87.

⁴⁷ For Alexander's two followers see *IG* XII, 9, 197. For the probably posthumous Alexander coins struck at Chalkis, see E. T. Newell, *The Coinages of Demetrius Poliorcetes* (London 1927) p. 139, note 4; two other specimens can now be added to the two mentioned by Newell. It is an interesting but isolated

probably saw to the establishment of pro-Macedonian oligarchies in all of the cities, and kept a garrison at Chalkis.

From a study of the remnants of the Amphiktyonic lists discovered by the French at Delphoi, it is possible to throw a little further light on Euboian affairs in the later fourth century, and some too, perhaps, on the activity of the League. In our histories of Greece the Amphiktyonic League appears briefly and obscurely at the time of Solon, disappears for more than two centuries,⁴⁸ and is then suddenly responsible—with the assistance of Philip of Macedon and the Athenian Aischines—for the two disastrous 'Sacred' Wars which put an end to Greek freedom. The twenty-four *hieromnemes* who composed the council of the League had apparently met twice annually throughout the long interval without exercising any great influence on the course of history, but our information about them is confined, for the fourth century, to inscriptions listing the names, and sometimes also the 'ethnics,' of those who attended the spring or fall meetings between 343 and 327. The roster of *hieromnemes* which can be compiled from these inscriptions is unfortunately very incomplete. The Euboians, who had one of the two Ionian seats while the Athenians had the other, are listed below in the first column;⁴⁹ in the second I have suggested, from 338 on, from which city those about whom we have no information probably came:

a Histiaian	343/2
city not known	343/2
—	342/1
from Dion? ⁵⁰	342/1
—	341/0
—	341/0
a Chalkidian	340/9
a Euboian (from Chalkis)	340/9

scrap of information that sometime before 325/4 B.C. Athens somehow secured eleven catapults from Eretria—*IG* II², 1629, lines 985–6.

⁴⁸ It certainly continued to exist and to play a role in Greek affairs—see *IG* I², 26, most recently discussed by B. D. Meritt in *AJP* 75 (1954) pp. 369–373.

⁴⁹ The table was compiled from the list on pp. 324–5 of *Fouilles de Delphes* III² (Paris 1932) and from the inscriptions on which that list is based.

⁵⁰ The restoration here is difficult, and unexplained in the text. (*FD* III² pp. 60–62.)

a Chalkidian ⁵¹	339/8	
—	339/8	(Chalkis?)
—	338/7	(Chalkis?)
—	338/7	(Eretria?)
—	337/6	(Eretria?)
—	337/6	(Histiaia?)
—	336/5	(Histiaia?)
a Euboian (from?)	336/5	(Chalkis?)
—	335/4	(Chalkis?)
an Eretrian	335/4	Eretria
an Eretrian	334/3	Eretria
a Histiaian?	334/3	Histiaia?
a Histiaian	333/2	Histiaia
—	333/2	(Chalkis?)
—	332/1	(Chalkis?)
—	332/1	(Eretria?)
an Eretrian or a Histiaian	331/0	Eretria?
—	331/0	(Histiaia?)
—	330/9	(Histiaia?)
a Chalkidian	330/9	Chalkis
—	329/8	(Chalkis?)
—	329/8	(Eretria?)
—	328/7	(Eretria?)
a Histiaian	328/7	Histiaia

Too few 'ethnics' are preserved for certainty to be possible about the principle of selection. The above table shows, however, that the information at present available is consistent with the annual representation in turn, from the Battle of Chaironeia to 327, of all three of the Ionian cities of Euboia. Karystos was probably omitted because its inhabitants were considered to be Dryopians; it is probably also true that it did not belong to the Euboian League.⁵² It seems

⁵¹ According to Bourguet (*FD* III⁵ p. 171) the Euboian representative on the board of treasurers this year, Thessalos son of Dorippos, was an Eretrian; it may well be so, but the restoration of the 'ethnic' simply on the ground that names ending in *-hippos* are common at Eretria seems precarious. If right it shows that not *all* of the Amphiktyonic positions were held by Chalkidians at this period.

⁵² For the Dryopians in southern Euboia see Her. VIII 46, Thuc. VII 57, and Diod. IV 37. The Eretrian demes of Styra and Zarex (the positions of which are accurately known) seem to have marked the northern limit of the Dryopian area—see *Hesperia* 16 (1947) pp. 129, 137, and 138. It is true that aside from the curious names which occur in the south of the island—the chief source for

strange that the cities should have held their seats in the spring and the following fall (the same year in our calendar) instead of in the fall and the following spring (the same year in most or all Greek calendars) so that the two half-yearly sessions at which each city was represented fell in different official years. Like the Euboians, the Boiotian representatives change in the middle of the year; the Athenians, however, sit by the Athenian (or Delphic) year. Many of the other *hieromnemes* seem to sit for longer than annual periods.

If after the battle of Chaironeia the three Euboian cities took turns year about, as suggested above, in holding the Euboian seat, we find at least five (and so probably at least six) Chalkidians in a row from 340 to 338 inclusive. This anomaly begins exactly at the time when Kallias of Chalkis was reinstituting the Euboian League, and comes to an end just after the Battle of Chaironeia. Perhaps Kallias secured the seat for Chalkis just as he arranged that the Euboian council should meet in Chalkis (the Eretrians seem similarly to have kept the seat to themselves between 277 and 273—see below); when Philip was in a position to settle Euboian disputes he may have seen that justice was done and the seat shared evenly. Or it may be that Kallias, without any outside pressure, turned over to the council of the Euboian League the right to select the Euboian *hieromnemes*, and that it (first considering the matter at its second meeting in 339?) decided to rotate the holding of the seat and to begin the rotation in 338 with a Chalkidian, even though Chalkidians had held it, on some other principle (or on none at all), for the last two years.⁵³ Whatever

these is the 'Styrian tablets,' *IG* XII, 9, 56—there is little sign that any distinction was made or felt between Ionians and Dryopians in Euboea from the time, at least, of the Persian wars, but the Dryopian origin of Karystos was certainly never forgotten (cf. Paus. IV 34,11). Geyer, in "Euboea (Geschichte)" *RE Supp.* IV col. 440, suggests that the lack of *hieromnemes* from Karystos shows that the city did not belong to the Euboian League.

⁵³ We do not know how any of the *hieromnemes* were selected (except that Philip's representatives were obviously appointed by Philip). It is, however, reasonable to suppose that after the re-establishment of the Euboian League in 340, the Euboian *hieromnemes* were chosen by the League; indeed it is difficult to imagine any other arrangement while the League was active. The two Thessalian *hieromnemes* were magistrates of the Thessalian League (not merely representatives of their individual cities)—they swore, along with the other officers of the League, to the treaty of 361/0 between Thessaly and Athens (*IG* II², 116 = Tod, *GHI* II, 147); it is accordingly probable that they

the explanation, it is not really surprising to find Chalkidians in a preferred position just at the period of Kallias' greatest power, and it is interesting to see that the Euboian cities belonging to the League apparently did, after 338, rotate the seat among themselves.

It has been mentioned that the Euboian cities, except Karystos, fought on the Macedonian side in the Lamian War; they were in the army defeated by Leosthenes at Plataia in 323 (Diod. XVIII 11); somewhat later the Macedonians invaded Attica from Euboia (Plu. *Phokion* 25), and, probably in retaliation, the Athenians made a destructive attack upon Styra (Strabo 447). There was thus a good deal of fighting in which the Euboian League was undoubtedly involved, and I should imagine that the 'kantharos' drachms belong to this period.

Kassandros and Antigonos' generals fought each other at Histiaia in 313, and then, as Kassandros had to return to Macedon, another of Antigonos' generals, Polemaios, appears to have gained control of the whole island and held it until 309, but the Euboians probably took sides in the struggle only when they were compelled to do so. The relief with which Eretria, at least, escaped from its Macedonian

were appointed in some way by the League itself. This is Thessaly, not Euboia, but the parallel may hold. For Euboia itself, much later, we have a possibly pertinent piece of evidence in an interesting though much mutilated inscription the text of which may be found in *FD III¹*, pp. 397-8; the best discussion of it is in Georges Daux's *Delphes au 11^e et au 1^{er} siècle* (Paris 1936) pp. 341-3. This inscription concerns a dispute between Eretria and Karystos on the one side and Chalkis on the other which was arbitrated by the city of Hypata in the archonship of Babylos at Delphoi—the date is thus between 120 and 108 B.C. (see Daux, l.c., p. 156, note 3). The subject of the dispute is not specifically mentioned in the preserved part of the text, but, because the inscription comes from Delphoi, both Bourguet and Daux suppose the point at issue to be the Euboian Amphiktyonic seat (in this they follow Pomptow, *Klio* 15 (1918) p. 15 and 17 (1921) p. 197; the theory is accepted without question by Ziebarth in *IG XII, Supp.* 1939, p. 207). Daux holds that Eretria and Karystos maintained, unsuccessfully, that "l'élection du hieromnemon appartient à l'ensemble des Eubéens" rather than to Chalkis, and it is clear that "all the Euboians" were somehow involved, for the phrase appears in the text. My only reserve about this interpretation is that Karystos was originally Dryopian, not Ionian, and had never, as far as we know, sent a *hieromnemon* to Delphoi; that, of course, may be the reason why their claim was rejected, but if so, why are the Eretrians associated with them? For our present purpose we can put no weight on this inscription; the date is too late and the interpretation too uncertain.

garrison in 308 may still be read in *IG XII*, 9, 192. As Holleaux has shown in a brilliant paper,⁵⁴ Eretria and Chalkis now joined the Boiotian League for four years, appointing "polemarchs" to administer the state, and adopting other Boiotian forms. Chalkis even accepted a Boiotian garrison, and Eretria contributed to the rebuilding of Thebes.⁵⁵

In 304 Demetrios Poliorketes arrived in Euboia in the double glory of his victory at Salamis and his defeat at Rhodes, and "freed" the island from its liberators the Boiotians. How the Euboians felt about this new liberation we are not informed. It seems, however, to have resulted in a second revival of the Euboian League under Demetrios' patronage, a revival which probably began at once although the inscription which is our evidence for it belongs to the early years of the next century. Demetrios immediately began to prepare for war with Kassandros, and in 302 he ordered his forces, both military and naval, to assemble at Chalkis; there were Eretrians among the sailors in his fleet.⁵⁶ The Euboian League had obviously to cooperate in Demetrios' preparations, and I should assign to this year one of its largest issues, the drachms with the 'lyre' symbol, which, from their comparative wear in the 1937 hoard (see p. 64) must come between the 'kantharos' and the 'satyr's head' drachms, and should be rather closer in date to the latter. Geyer (in *RE Supp. IV* col. 441) raised the question whether the Euboian League survived through the period of the *Diodochenkämpfe*, and decided that it probably did not. It is true that the League can have had little scope between, for instance, 313 and 304, but the continuous series of coins (which Geyer, of course, assumed should be dated before 338) is fairly good evidence that it was not disbanded. If we are right in putting the 'kantharos' drachms about 320 and the 'lyres' about 302, the League, however inactive,

⁵⁴ 'Note sur un décret d'Érétrie,' *REG* (1897) pp. 157-189, republished in *Études d'épigraphie et d'histoire grecques*, by Maurice Holleaux (Paris 1938) pp. 41-73.

⁵⁵ *IG VII*, 2419 = *Syll.*³ 337, lines 21-2. Holleaux is also responsible for the accurate dating and interpretation of this inscription (*REG*, 1895, pp. 7-48, and *Études* pp. 1-40).

⁵⁶ For the Eretrians: *IG XII*, 9, 210 = *Syll.*³ 348; this is one of a group of decrees in honor of Macedonians passed at Eretria between 302 and 288 B.C.—the others are *IG XII*, 9, 218 (lettering very similar to 210), 199, 198, 200, and possibly also 221 and 222 (which are dated too late in *IG*) and *IG XII, Supp.* 552.

will have existed in some sense between those two dates, and if these positive dates should prove to be inexact and the issues are shifted a few years in either direction, one of them will then fall inside the period. We arrive at the conclusion that the League had some kind of existence from its refoundation in 340 until the end of the century. Eretria, Chalkis, and Histiaia belonged to it, but Karystos almost certainly did not.

The Third Century

The Beseiger left Greece as suddenly as he had arrived, recalled by his father to fight, and to lose, at Ipsos in 301. There seems to be general agreement on somewhat sketchy evidence that Euboia, along with the rest of central Greece, followed Athens' lead in deserting Demetrios. We do not really know what happened in the island between 301 and 294; it is possible that tyrants in Kassandros' interest alternated at Chalkis and Eretria with democratic government in the name of Demetrios.⁶⁷ In any case, from 294 until his final departure in 287 Demetrios, now King of Macedon, controlled the greater part of Greece including the island of Euboia, and Chalkis was one of the chief centers of his power, along with his new capital of Demetrias and the almost impregnable fort of Corinth.

The only extant piece of documentary evidence about the Euboian League, before Roman times, belongs to the latter part of Demetrios' rule in Euboia, probably to the years 291–288. It is a long inscription

⁶⁷ It is recorded on the authority of Antigonos of Karystos (ap. Diog. Laert. II, 140) that Menedemos the philosopher acted as ambassador for the Eretrians to Ptolemy and Lysimachos, and Beloch (*Gr. Gesch.* III², p. 301), referring these embassies to the years following Ipsos, supposed that Eretria had deserted Demetrios, and if Eretria, surely also Chalkis. Diogenes Laertius also preserves (II 143) a fragment of Herakleides Lembos to the effect that Menedemos πρόβουλον γενόμενον τῶν Ἐρετριέων πολλάκις ἐλευθερῶσαι τὴν πόλιν ἀπὸ τῶν τυράννων ἐπαγόμενον Δημήτριον. As Beloch says, this cannot refer to 304 when Demetrios separated the Euboian cities from the Boiotian League; it must accordingly refer to the years between Ipsos and Demetrios' return in 294. Perhaps the tyrants, like Lachares at Athens, seized power on behalf of Kassandros, and Menedemos obtained help against them from some of Demetrios' representatives in Greece or in the islands. But it is worth while to point out that on this theory Menedemos in visiting Ptolemy and Lysimachos is acting against Demetrios' interests, while in expelling these otherwise unrecorded tyrants he is acting on his behalf. It is better to admit that we do not know.

—there are 75 lines with up to 100 letters in each—which, although the preamble is lost, is obviously a decree of the Euboian League laying down regulations for the artists who assisted in the celebrations of the two Euboian festivals, the *Dionysia* and the *Demetrieia*, and regulations also for their treatment by the four cities, Karystos, Eretria, Chalkis, and Oreos (Histiaia).⁵⁸ The most interesting passages, from our present point of view, are the references to previous legislation: κατὰ τὸν Εὐβοϊκὸν νόμο[ν] (l. 20), κατὰ τοὺς νόμους (l. 33), κάθ' ἅπερ καὶ τοῖς Διονυσίοις [γέ]γραπται (l. 41), κατὰ τὴν διαγρα[φήν] (l. 57), τοὺς κειμένου[ς] τοῖς Εὐβοιέῃσι περὶ τούτων νόμους (ll. 68–9), κατὰ τὰ δόξαντα [[τα]] τοῖς Εὐβοιέῃσιν (l. 72). From these references in their context it is clear, as Ziebarth points out (in *IG XII, Supp., ad loc.*), that there already existed at the time of the inscription laws of the Euboian League about the celebration of festivals, the duties of choregoi, the awarding of contracts, and about the imposition of some kind of duties or taxes. Offenders are to be fined by the authorities of the city in which the offence is committed, and they are to be [ἐντὸς] τῆς Εὐβοίας ἀγῶγιοι. It is provided that intercalary months shall be inserted at the same times in all the cities of Euboea, and that the local authorities may insert up to three intercalary days if necessary (to enable the festivals to be held on the proper dates in the different cities);⁵⁹ thus the League has some kind of recognized right to legislate on calendaric matters for the whole island. Payment to the artists is to be made in the coinage of Demetrios,⁶⁰ and his overriding authority is recognized (see note 58).

⁵⁸ *IG XII*, 9, 207 = *Syll.*³ 348. If Newell is right about the dates of Demetrios' coins, and right that the coins referred to here were minted at Chalkis (see note 60) we obtain a *terminus post quem* for the inscription of 291 B.C. And the reference to Demetrios in line 48 — ἐὰν μὴ ὁ βασιλεὺς ἄλλο περ[ὶ] αὐτῶν ἐπιστείλῃ—perhaps suggests that he had not yet left Greece, so that the inscription should date before 287.

⁵⁹ This kind of interference with the calendar was probably not unusual—see W. K. Pritchett and O. Neugebauer, *The Calendars of Athens* (Cambridge, Mass. 1947) pp. 21–2.

⁶⁰ Demetrios had a mint at Chalkis, as E. T. Newell has shown in *The Coinages of Demetrius Poliorcetes* (London 1927) pp. 137–143 (it is corroborative evidence that Demetrios' coins are occasionally found in the island). Newell dates Demetrios' issues at this mint between 292/1 and 283/2. Ziebarth has suggested with some reason (in *IG XII, Supp., ad 199*) that Kleochares, son of

It is thus clear that the Euboian League flourished in the opening years of the third century under the patronage of Demetrios Poliorketes, that it possessed wide powers to regulate the affairs of the island, and that Karystos belonged to it—probably for the first time.

Demetrios was in Macedonia for most of the period from 294 to 287, while his son and successor, Antigonos Gonatas, now a young man in his later twenties, acted as his father's representative in Greece, and probably spent much of his time in Euboea at Eretria, where Menedemos was his teacher and friend.⁶¹ Thus when, in 289, Demetrios chose Chalkis along with Pella, Athens, and Corinth, as one of the four dockyards where his last great fleet was built, the local popularity of his son may provide a pleasanter explanation than servile flattery for the numerous honors to Macedonians which were voted at Eretria about this time (see note 56). Demetrios' mint at Chalkis doubtless provided the bulk of the coin required for his preparations in Euboea, but it is possible that the satyr's head issue of the Euboian League was due to the same martial activity.

In 280 there was a wide-spread insurrection in Greece proper against Macedonian rule, and it is clear that Euboea too, either then or soon afterwards, declared her independence.⁶² Our chief evidence is the Delphic lists of *hieromnemes*, the Euboian part of which may be summarized as follows (once more where we have no information I have entered suggestions in brackets in the right hand column, chiefly to show that the arrangement proposed is consistent with the preserved names):

Pytheas, a Macedonian from Amphipolis, who was honored by the Eretrians in *IG* XII, 9, 199 (and by the Athenians in *IG* II², 559) may have been Demetrios' representative with authority over Euboea.

⁶¹ See W. W. Tarn, *Antigonos Gonatas* (Oxford 1913) pp. 20–26.

⁶² This event is dated too late by Tarn (l.c. p. 268–9); the Delphic lists of *hieromnemes* have been considerably revised since he wrote. Geyer's list in *IG* XII, 9, p. 173 is also out of date. The best publication of them is now R. Flacelière's *Les Aitoliens à Delphes* (Paris 1937) App. I "Recueil des listes Amphictioniques de Delphes à l'époque de la domination Aitolienne;" see also, for the Euboians, his discussion on pp. 188 and 193.

No Ionians	279/8	
(?)	278/7	
Sosibios (or Theokritos?) ⁶³	278/7	(an Eretrian?)
Theokritos, an Eretrian	277/6	an Eretrian
—	277/6	(an Eretrian?)
—	276/5	(an Eretrian?)
—	276/5	(an Eretrian?)
—	275/4	(an Eretrian?)
—	275/4	(Menedemos, an Eretrian?)
Menedemos, an Eretrian	274/3	an Eretrian
—	274/3	(Aischylos, an Eretrian?)
Aischylos, an Eretrian	273/2	an Eretrian
Eperastos, a Euboian (an Eretrian) ⁶⁴	273/2	a Euboian
Eperastos, a Euboian	272/1	a Euboian
—	272/1	(Amphikrates, a Euboian?)
Amphikrates of Chalkis, a Euboian	271/0	a Euboian
—	271/0	(a Euboian?)
—	270/9	(?)
—	270/9	(?)
—	269/8	(?)
—	269/8	(?)
—	268/7	No Euboian in full list
Hektos, a Euboian (a Histiaian?) ⁶⁵	268/7	a Euboian (Histiaian?)
—	267/6	(Hektos, Euboian-Histiaian?)

⁶³ Of this name Flacelière says (p. 386) "Les seules lettres qui sur la pierre paraissent certaines sont les deux derniers: OY," but in his text he reads Σωσ[ι]β[ι]ου (?) as if the σ were certain. Pomptow originally read *Sosibiou*, but later proposed to read *Theokritou*. It may be noticed that the entries for 273/2, 273/2, and 272/1 (and, rather less clearly, those for 268/7 to 265/4) strongly suggest that the Euboians in the third century as in the fourth (see page 24) sat in the spring and the following fall instead of, as one might have expected, in the fall and the following spring; this is a strong reason for preferring the reading *Theokritou* if it is not definitely incompatible with the traces on the stone.

⁶⁴ See Flacelière, l.c., p. 193, note 1.

⁶⁵ Flacelière gives the reading as [E]ὐβοίων 'Εκτου Μ[- but says that Pomptow's reading of the name as 'Εκτορι[δου] is also possible: the photograph of a squeeze published in *FD I II* p. 285, fig. 41, favors Flacelière, and also shows that there is no doubt about the reading [E]ὐβοίων. It is rather strange, as we shall see, to find a "Euboian" listed in this year; is it perhaps possible that the man should have been called a Histiaian, but the designation "Euboian" was retained by mistake because it had been used in recent lists? There are two similar irregular uses of "Euboian" in the fourth century (see table on p. 22). Beloch considered the man an Eretrian, but Flacelière thinks this improbable (l.c., p. 193, note 2).

Kleomedon, a Histiaian	267/6	a Histiaian
Kleomedon, a Histiaian	266/5	a Histiaian
—	266/5	(Kallicharis, a Histiaian?)
Kallicharis, a Histiaian	265/4	a Histiaian
(Anti?)phon, a Histiaian	265/4	a Histiaian
—	264/3	(Anti?)phon, a Histiaian
—	264/3	(a Histiaian?)
—	263/2	(a Histiaian?)
—	263/2	(?)
—	262/1	no Euboian (or Athenian) in full list
—	262/1	(?)
—	261/0	(?)
—	261/0	(a Histiaian?)
—	260/9	(a Histiaian?)
—	260/9	(Kleomedon, a Histiaian?)
Kleomedon, a Histiaian	259/8	a Histiaian
—	259/8	(Androsthene?) a Histiaian?)
(Androsthene)s, (a Histiaian)	258/7	(a Histiaian?)
—	258/7	(a Histiaian?)
—	257/6	(a Histiaian?)
—	257/6	(Phyton, a Histiaian?)
Phyton, a Histiaian (archon, 266/5?)	256/5	a Histiaian
—	256/5	(Antiphon, a Histiaian?)
Antiphon, a Histiaian	255/4	a Histiaian
—	255/4	?
No Histiaian (or any Euboian) in full list, and no others hereafter; be- ginning in 242, the Euboian seat was given to Chios	254/3	

Examining this list we see that from 278/7 to 274/3 the Euboian representatives seem all to have been Eretrians, designated as such; in 274 and 273 respectively occur the names of the philosopher Menedemos, Antigonos Gonatas' friend, and of Aischylos, his political opponent.⁶⁶ As Flacelière remarks, Pyrrhos' victory over Gonatas in

⁶⁶ Aischylos' Theban (and so doubtless anti-Macedonian) connections are shown by the fact that he and his son (?) are to be identified with the Αἰσχύλος Ἀντιανδρίδου and Ἰθαγενὴς Αἰσχύλου who were polemarchs in the first year, 308/7, of Eretria's brief membership in the Boiotian League—see *IG* XII, 9, 192. His opposition to Menedemos also shows that he was opposed to Menedemos' friends, the Macedonians; it is extraordinary that Holleaux should call

274 has clearly had repercussions at Eretria where, as we know, Menedemos was exiled about this time for his Macedonian sympathies. The representatives of the next two years are designated as Euboians, not Eretrians (Eperastos in 272 is, however, known to be an Eretrian, Amphikrates in 271 is a Chalkidian). We have no information about 270 or 269⁶⁷, no Euboian representative appears to have been sent in 268, and Hektos, designated as a Euboian, appears in 267. Then for the next twelve years all of the Euboian representatives are designated as Histiaians. In short, the Euboian *hieromnemes* were listed:

from 278/7 to 274/3 as Eretrians

from 273/2 to 268/7 as Euboians

from 267/6 to 255/4 as Histiaians

How are these changes in nomenclature and representation to be explained? We have already suggested that the Euboian League, when active, probably appointed the Euboian *hieromnemes* or at least indicated from which city they were to be chosen (see note 53). Now the Euboian League *was* active, as we have seen, under Demetrios Poliorketes, but it may well be that with the establishment of a garrison at Chalkis it had again become a dead letter: the realistic Antigonos was less likely than his romantic father to encourage an organization which might cause trouble for him, and which, from his point of view, served no useful purpose except to arrange for the celebration of pro-Macedonian festivals. That Chalkis was issuing its own coins early in the third century perhaps points in the same direction.⁶⁸ Accordingly when Eretria broke away from Antigonos, as

him "membre ardent de la faction dévouée à Antigone" (l.c. in note 49, pp. 160 and 188)—this is presumably simply a misunderstanding of Diog. Laert. II, 141. We probably meet Aischylos again as the archon of that name who heads one of the late fourth century ephebic lists—*IG XII, Supp.* 555—which are to be dated 304–300 B.C. (see *Hesperia* 16, 1947, p. 116), and he is certainly the "orator," for his father's name is given, who moved an Eretrian decree of unknown import very early in the third century—*IG XII, Supp.* 550.

⁶⁷ Flacelière's fragmentary list no. 49 contains the entry 'Ιστιαίων Προκ[λέους] and he inclines to put it in 270/69 rather than in 264/3 or 263/2. If this is right, a Histiaian, so designated, appears in this group of "Euboians," which seems somewhat anomalous as the groups are otherwise consistent. Either of the later dates would retain our distinction between the three groups.

⁶⁸ The Chalkis drachms are usually supposed to come to an end in 336 (Head, *HN*³ p. 358), or by the end of the century ("the accepted dating to the last

the lists of *hieromnemes* show that it did, in or about 279/8, the council of the Euboian League had probably ceased to meet, and the Eretrians, now free, sent representatives in their own name to Delphi. This seems a suitable occasion for an issue of coin by Eretria, and if the satyr's head drachms were not struck in 289, as suggested above, they probably belong to 279/8, for the evidence of hoards suggests that they should be dated ± 285 B.C. (see page 65 below). It is true that these coins are struck in the name of the League, but that is not really surprising; it need mean only that Eretria is continuing the policy of issuing no coins in its own name while the League exists at all. The League at the time may have been little more than an Eretrian theory, but there was hope that it could soon be revived. We do not know what form Eretria's break with Macedonia took, but it was probably something short of formal rebellion and open war. At least Menedemos seems to have tried to keep his city on fairly good terms with his former pupil, for, as *proboulos* of Eretria, he moved a decree congratulating Antigonos on his victory over the Gauls at Lysimacheia in 277.⁶⁹ Chalkis was occupied by a Macedonian garrison and probably did not gain its independence until some time after Pyrrhos' victory over Antigonos in 274. Then Eretria, where Menedemos had just been exiled and the anti-Macedonian Aischylos was now the leading citizen, and Chalkis, which hoped to stay free of Macedonian occupation, naturally re-established the Euboian League for their mutual protection: it is a small but perhaps sufficient piece of evidence that the designation 'Eretrian' in the lists of *hieromnemes* disappears in favour of 'Euboian' in 272. This does not tell us whether or not Histiaia and Karystos, which had belonged to the League at the beginning of the century, now rejoined it, but as they had less to gain from Euboian unity and more to fear from the Macedonian fleet, one may assume that they did not.

This second revival of the League lasted for only a short time. Either the intrigues of Egypt, where Arsinoe's son was a pretender to the Macedonian throne, or perhaps merely the simple logic of the half of the fourth century is probably correct"—E. T. Newell, *Olympia Hoard*, *NNM* 39, New York 1929, p. 17). They require much more work than they have yet received; I think, however, that some of the issues belong early in the third century.

⁶⁹ Diog. Laert. II 142; see also Tarn, *Antigonos Gonatas* p. 166, n. 104.

situation—Chalkis was a necessary link between Demetrias and Corinth⁷⁰—made Antigonos decide, as his strength increased, to re-establish his garrison at Chalkis, and this time to occupy Eretria as well. His recovery of Euboia belongs to the year 270.⁷¹ Either then, or possibly on the outbreak of the Chremonidean War in 267/6 (if “Hektos” was really a “Euboian” representative, chosen by the League—see note 65), the Euboian League suffered another eclipse, and no more *hieromnemes* from Eretria or Chalkis appear in the lists. Antigonos, at war with Athens and with Egypt and concerned for his communications in the Euboian strait, could no longer afford to allow any independence to these two cities; or perhaps the Amphiktyonic council, completely dominated by the Aitolians, would not seat representatives from cities now so patently under Macedonian control. In either case the seat fell naturally to the Histiaians, for Karystos, as we have seen, was not an Ionian city.

To this period undoubtedly, to one of the four years between 271 and 267, belongs the last silver issue of the Euboian League, the drachms with the dolphin symbol, struck on the last occasion when the Euboian cities defended themselves against Macedon. The rough date for them obtained by considering the comparative wear shown by the different groups in the Eretria hoard of 1937 (see page 65) was c. 265 B.C.; they are later in style, and in all the known hoards better in condition, than any of the other issues of the League. They are also struck from a smaller number of dies, which perhaps suggests that Antigonos met comparatively little opposition when he undertook the reconquest of the island.

Histiaians were now, for a dozen years, the only holders of the Euboian seat, and Histiaia must, accordingly, have been fairly independent of Macedon at this period. It was clearly now a place of some importance, for in a single year, 266/5, it appointed no fewer than thirty-one *proxenoi* from widely separated places.⁷² It is sur-

⁷⁰ This is well emphasized by Tarn, l.c. p. 289.

⁷¹ Tarn, l.c. p. 286. This is probably the *ἐλωσις* of Eretria referred to in Diog. Laert. II 127.

⁷² *IG* XII, 9, 1187 = *Syll.*³ 492 (where, by a slip, the reference is given as 1188). The archon, Phyton, by whom the list is dated was probably the *hieromnemon* Phyton of 256/5 (see p. 31). In his interesting paper on “La circulation des monnaies d’Histiée” in *Études de Numismatique grecque* (Paris 1951) pp. 179

prising how little is known about this capital of northern Euboia; its port was excellent, its position commanding, its territory considerable, and its issues of coin—in the second century at least—show immense commercial or military importance, or both; one may hope that future excavation will uncover useful inscriptions. Meanwhile it is not even known whether Histiaia formed part of the small Euboio-Corinthian kingdom of Alexander, son of Krateros, when he rebelled from Antigonos in 253/2.⁷³ This is Tarn's date, and seems to be a *terminus ante quem*; if Alexander's rebellion could be put a year earlier it might explain why Histiaia sent a *hieromnemon* to Delphi in 255/4, but none in 254/3. And there was none thereafter.

King Alexander of Euboia and Corinth reigned only for four or five years.⁷⁴ He died in 249 or 248, and Antigonos recovered possession of both Corinth and Euboia. In the second half of the century the firm-

to 216, Professor Louis Robert quotes and discusses this inscription. Robert considers that one should not be surprised at the number of *proxenoi* in this one year in view of the huge issues and wide circulation of Histiaia's later tetrobols, and he assembles an impressive list of hoards containing these coins and of references to their discovery in many places. Now we do not know the chronological limits of Histiaia's later issues; Robert in a long note (p. 185, n. 3) reviews the differing and rather vague opinions of previous scholars without expressing one of his own, and rightly emphasizes the need for further study of the series. But it is certain that the great bulk of the coins which he adduces are almost a century later in date than the inscription on which he is commenting. Histiaia's connections may have been as extensive in the early third century as in the early second, but it is fairly clear that at the earlier date her coinage (if any—I hope soon to discuss this question further) was not remotely comparable in quantity, and the close connection with Macedonia which Robert quite properly posits for the early second century and which was perhaps—or even probably—in some way responsible for the extraordinary size of her issues, did not exist in the early third, as is shown by Histiaia's Amphiktyonic seat (which Robert does not mention). In short it is better not to assume any close connection between the conditions (whatever they were) which produced the thirty-one *proxenoi* of 266/5 and those which produced the numerous tetrobols of the first half of the second century. This is only one more instance of the danger of drawing historical conclusions from an inadequately known body of coins.

⁷³ See Tarn, *Antigonos Gonatas* p. 355, especially note 35.

⁷⁴ For the date of his death see Tarn, *l.c.*, p. 370, note 5; for his rule at Eretria see *IG XII*, 9, 212 (which gives him his royal title). The Karystos didrachms with a king's head as their obverse type, which Six (*NC*, 1894, p. 299) wished to attribute to Alexander, are probably later in date, not late enough, however, to make possible Gardner's identification (*NC*, 1878, p. 98) with Antiochos the Great, as Mme. Varoucha shows in *Epitymbion Tsounta* p. 674.

ness of Macedonian control over the island is the probable reason for the lack of inscriptions of the period at Eretria (the only one of the four cities where enough inscriptions are known to give weight to such an *argumentum ex silentio*), and for our general ignorance of Euboian affairs. During the third century three of the Euboian cities were issuing bronze in their own names. Eretria, still apparently clinging to the theory that the League existed, put out a number of bronze issues in the name of the Euboians; that the mint of these coins was really Eretria is shown not only by the lack of any issues in the third century carrying the name of the Eretrians, but also by the fact that early in the next century, when Eretria did issue her own coins as well as the League's, the types of the two series are identical, while those of the other cities continue to be different. Apart from these bronze issues we know practically nothing of Euboian history in Gonatas' last ten years or in the reigns of Demetrios II (239-229) and Antigonos Doson (229-221), until at last the island was involved in the long struggle between Philip V and Rome.⁷⁵

The League between Philip and Rome

In the winter of 209/8 Attalos, King of Pergamon, and Publius Sulpicius Galba, proconsul of Rome, met in the island of Aigina, which Attalos had bought from the Aitolians for thirty talents, to discuss a plan of campaign which should further Attalos' ambition to establish an Aegean thalassocracy, and reduce what the Romans conceived to be their danger from Philip. The negotiators, their purposes, and the meeting place, so secured, all seem extraordinary to the student of Greek history; indeed they show that the history of Greece has ended. But the states of Greece, now caught up in movements which they had no chance of controlling, nevertheless struggled as far as they could to preserve their liberties, their forms of government, and their accustomed ways of life. The cities of Euboea were more helpless than most, for they lay directly on the lines of all

⁷⁵ The inscription *IG XII, Supp. 644* which was published with a full commentary by Kougeas in *Hellenika* VII (1934) describes in considerable detail the arrangements of a Macedonian king, almost certainly Philip V, for maintaining stocks of provisions, etc., at Chalkis and other unspecified fortified places in Euboea.

military traffic in this new age, whether north and south or east and west.

The united fleets of Rome and Pergamon amounted only to sixty ships, but Philip could not oppose them at sea. He accordingly strengthened the places most obviously threatened, including Euboia, and awaited the outcome at Demetrias. The allies accomplished nothing of importance anywhere; in Euboia, in 208, they captured Oreos (Histiaia), and attacked Chalkis unsuccessfully; then Attalos returned to Asia, and Sulpicius retired to Aigina, while Philip won back Euboia and scored other successes. The war was ended by the Peace of Phoinike in 205, and the Romans withdrew from Greece. The Euboians had undoubtedly been whole-hearted in their support of Macedon—or in their desire for Macedonian support—but the League issued no silver, seems to have taken no military action, and had, indeed, in all probability become a dead letter again. At least in 206 B.C. Eretria and Chalkis received separate ambassadors from Magnesia on the Maiandros inviting them to recognize and take part in the games held there in honor of Artemis Leukophryne; at the same time that these cities were approached individually, ambassadors were also sent to the *κοινά* of the Boiotians and the Phokians.⁷⁶ That the *κοινόν* of the Euboians is ignored suggests that it was again in abeyance.

It is interesting to see that Histiaia is evidently considered by both sides to be a place of importance. Its issues of later tetrobols which are usually dated from 196 to 146 B.C. had probably already begun by this time,⁷⁷ and the close connection with Macedonia, which was remarked on by Borrell more than a hundred years ago (although he drew the wrong conclusion from it)⁷⁸, and which has recently been

⁷⁶ See *Inscriptionen von Magnesia*, ed. O. Kern, 34, 37, 47, and 48. The last two inscriptions, decrees of Chalkis and Eretria, are quoted in the *Testimonia* to IG XII, 9, pp. 162 and 166.

⁷⁷ The close connection between Histiaia and Macedonia during the wars between Philip and Rome (see note 71), and the lack of any Histiaian issue larger than the tetrobol, make it unreasonable to treat 196 as a date of special numismatic importance at Histiaia, although the other three Euboian cities undoubtedly began new series at that time. I hope to discuss these later tetrobols of Histiaia in detail in another place; meanwhile I can only express the opinion that they probably began earlier than 196.

⁷⁸ "Restitution to Histiaeotis in Thessaly of several coins classed to Histiaea in Euboea," *NC* 2 (1839-40) pp. 232-7.

emphasized by Robert (see note 72), is the probable explanation. It is unfortunate that we do not know the form it took, or the exact reason for it.

The remarkable agreement for the division of Egypt's foreign possessions which was made in 203/2 by Antiochos the Great of Syria and Philip V of Macedon was dictated by their separate interests rather than by mutual good-will, yet the Romans saw in it a possible threat to their own security. And when Philip immediately entered upon a campaign of indiscriminate annexation of Egyptian possessions and free cities alike, Attalos and Rhodes, among others, had better reasons for concern. Thus in spite of their previous behavior in Greece the Romans were able to begin the Second Macedonian War with the Aitolians and the Athenians as their allies and with the rest of Greece more or less benevolently neutral.

One of the first events of the war was the capture of Chalkis in a surprise raid by the Roman fleet from Athens; the Romans massacred the inhabitants and burned the city but could not hold it (Livy XXXI 23). In the following year, 199, the Roman fleet captured Histiaia and handed it over to Attalos; somehow Philip recovered the town. In 198 it was the turn of Eretria and Karystos; the Eretrians defended themselves bitterly, but were surprised during negotiations—the Romans found little to loot except works of art, the number of which astonished them—and the Karystians, after the fall of Eretria, saved their lives by surrender. It is even possible that Philip recovered these cities too,⁷⁹ but Kynoskephalai in 197 put an end to the war. It is unlikely that there was any cooperation among the Euboians such as might have been arranged by the League had it been active; the Euboian cities, impoverished and faced only with a choice of masters, fought side by side with their Macedonian garrisons against the Roman assaults, but could not or would not make any combined effort.

Flaminius theatrically announced the restoration of freedom to Greece at the Isthmian games of 196, and then, partly through

⁷⁹ Polybius XVIII 45.5 seems to say as much and is so interpreted by Ziebarth (*IG* XII, 9, p. 155). Holleaux considers Polybius mistaken (*REG* 36, 1929, p. 129, note 3). Walbank expresses no opinion (*Philip V of Macedon*, Cambridge 1940, p. 155, note 6). The matter is of little importance.

vanity and partly, perhaps, through philhellenism, persuaded the senate to abandon the idea of permanent garrisons at Demetrias, Chalkis, and Corinth, and not to hand Histiaia and Eretria over to Eumenes of Pergamon; thus he contrived to retain for Rome some small reputation for honesty, and for himself a large measure of the adulation by which he set such store. The freedom was, of course, illusory, but it had important numismatic results. Eretria and Chalkis, like Athens,⁸⁰ struck magnificent new series of coins, headed by the tetradrachm which neither of them had struck since the sixth century and which seems to have become a kind of badge of autonomy. Histiaia merely continued her tetrobols, being now perhaps too Macedonian in feeling to experience the empty elation which was sweeping over Greece. Karystos even issued gold, for the first and only time in her history. The Euboian League, now probably believed in by no one but the Eretrians, issued bronze with types exactly similar to those of the new Eretrian silver.

The promise to withdraw the Roman garrisons was at last made good in 194, when Flamininus himself went first to Chalkis and then to Demetrias, to remove the troops personally and to receive appropriate ovations. Garrisons at Oreos and Eretria were removed at the same time, and the Euboian League was once more reconstituted.⁸¹

⁸⁰ For the dating of the first issue of Athens' "New Style" coins to 196 see Margaret Thompson, "The Beginning of the Athenian New Style Coinage," *A.N.S. Museum Notes V* (1952) pp. 25-33 (where Plate VIII shows specimens of the issues of Chalkis and Eretria). On the basis of their occurrence in the Anthedon Hoard, Miss Thompson convincingly establishes the synchronism of the new issues at Chalkis and Eretria with the beginning of the Athenian "New Style" coins, and proposes 196 as the date for the first appearance of the new series both in Euboia and at Athens. This date seems entirely reasonable and is further supported by the evidence of the Eretrian-Euboian bronze issues—see below, p. 126.

⁸¹ Livy XXXIV 51, speaking of Flamininus: "ipse Chalcidem profectus deductis non a Chalcide solum sed etiam ab Oreos atque Eretria praesidiis, conventum ibi Euboicarum civitatum habuit, admonitosque in quo statu rerum accepisset eos et in quo relinqueret dimisit." That this meeting reconstituted the Euboian League is not stated in so many words but is highly probable. Flamininus and the ten commissioners clearly favored the establishment of small leagues in Greece (especially in Thessaly) as a guarantee against the future aggrandizement of either Aitolia or Macedon. And both coins and inscriptions (see below) indicate a revival of the League about this time, although

We know a good deal about the form taken by the Euboian League in the early second century.⁸² It was a *sympoliteia*—that is, the Euboian enjoyed concomitantly two citizenships, one as a citizen of his own city-state, and the other as a citizen of Euboia, of the League. Both the four individual cities and the League itself possessed the right to grant to foreigners honors such as *euergesia* and *proxenia* and their attendant privileges: thus the *proxenos* of Eretria was granted the right to own land, etc., in Eretria, the *proxenos* of the *koinon* was granted similar privileges in Euboia generally—and all four cities must have agreed to recognize such rights when the recipient chose to exercise them. There was an eponymous *hegemon* at the head of the League, there was a *boule* (the *synedroi*) and an *ekklesia*, and there was a *tamias*. Finally, the League held gymnastic games called the *Romaia*. In view of the fact that both of the known decrees of the League in the early second century were found at Chalkis, it is perhaps probable that the council and assembly of the League met at Chalkis rather than at Eretria; Chalkis was obviously the geographical center of the island and the most important city from the military point of view; it is natural that Flamininus should have chosen it for the meeting place in spite of Eretria's pretensions.⁸³ But as in the fourth century, Eretria continued to be the mint for the League's coins, if we may judge from the extraordinary similarity of the Eretrian and League types (see chapter 4).

That the good will of Euboia toward the Romans was rather superficial is shown by the ease with which Antiochos took over the island during his ill-fated campaign in Greece in 192/1. He spent the winter

they do not provide an exact date. So too B. Niese, *Geschichte der griechischen und makedonischen Staaten seit der Schlacht bei Chaeroneia* (Gotha 1893–1903) II, p. 653 and G. De Sanctis, *Storia dei Romani* IV. I. (Turin 1923) p. 103, note 203.

⁸² The evidence comes chiefly from two inscriptions found at Chalkis (one of them was built into the Venetian castle) and published in *IG XII*, 9, 898 and 899. It has been considered briefly by Ziebarth (*IG XII*, 9, p. 153) and by Swoboda (*Lehrbuch der gr. Staatsalterthümer*, Tübingen 1913, pp. 442–3).

⁸³ This is perhaps also suggested by the fact that the only two Euboian *hieromnemones* whose names are known in the second century—Apollonophanes, son of Dionysios, in 178, and Antileon, son of Poliagros, in 134? (see Georges Daux, *Delphes au II^e et au I^{er} siècle*, Paris 1936, pp. 651–2)—both come from Chalkis; but the fact may be purely accidental.

at Chalkis, where he married a Chalkidian girl whom he chose to call "Euboia," the daughter of one Kleoptolemos, a distinguished citizen of the town.⁸⁴ On his precipitate departure the Euboians naturally feared Roman reprisals and fawned on Flamininus when he forgave them, feeding his ridiculous vanity with appropriate honors.⁸⁵ All true independence had disappeared, and although we know that the League lasted on into imperial times, there is no need here to follow the fortunes of the island in detail, for there are no coins of the League later in date than the early part of the second century; they were then struck in bronze only, and probably antedate the period when Perseus renewed, for the last time, Macedonia's long struggle with Rome.

If we look back over what we have been able to recover of the history of the Euboian League, it is clear first of all that it was never completely and formally disbanded at any time after its foundation in 411/10; this is established not only by the continuity of type in the issues of the League itself, but also by the pointed refusal of Eretria to strike coins in its own name at periods when the other cities did so and when Eretria itself was prosperous and influential. It is clear also, however, that there were times when the League existed in theory only; and that Karystos and Histiaia by no means always belonged to it. We may distinguish the following periods of activity:

411/10 to 395 – only Eretria and Chalkis belonged.

357? – a small issue of coin testifies to some slight activity before the reconstitution by Kallias.

⁸⁴ Her head does not, however, appear on the new tetradrachms of Chalkis as proposed by Gardner (*NC* 1878, p. 99) although Babelon accepted the suggestion (see also Forrer, "Euboea, Queen of Syria" in Spink's *Numismatic Circular*, Feb. 1938, p. 43), for these coins should be dated in 196 (see note 80 and p. 126). Newell, although he dated the coins c. 190, considered the identification with "Euboea" improbable; his view, expressed to me nearly twenty years ago in conversation, was that the head probably represents Demeter.

⁸⁵ Flamininus was perhaps honored at Eretria by the placing of his statue in the temple of Artemis at Amarynthos (*IG* XII, 9, 233 has been restored in this sense by Hiller; if his supplements are correct, Ziebarth is justified in calling the inscription a "decretum vel lex satis memorabilis," but the fragment is small, and the restoration must be considered far from certain). At Chalkis he was worshipped as 'Saviour,' and had his own priest who continued to be elected for several centuries, while the gymnasium and the Delphinion were dedicated 'to Titus and to Herakles' (Plu. *Flamininus* 16).

- 340 to 280 – Chalkis, Eretria, and Histiaia belonged from 340 to c. 302; then, under Demetrios Poliorketes, all four cities belonged from (roughly) 300 to 280.
- 273 to 270 or 267 – probably only Eretria and Chalkis belonged.
- 248? to 194 – the League issued bronze, but perhaps only Eretria recognized its existence.
- 194 to imperial times – the League, under Roman patronage, included all the cities of the island, with, doubtless, many periods of quiescence and none of real activity. It issued coins only for a few years from 194 to about 180, and again, briefly, towards the middle of the century.

This is to state as fact what is never fully known and is often hypothetical. The history of the Euboian League can, however, be traced in its broad outlines, and the issues of the League can be dated with some approach to accuracy.

Note on the Campaign of 349/8

We may well agree with Grote that “nothing can be more obscure and difficult to disentangle than the sequence of Euboean transactions” in this year. The problems have been discussed in detail by Kahrstedt, *Forschungen etc.* (1910) pp. 54–62, and more recently by H. W. Parke in *JHS* 49 (1929) pp. 246–252, *non sine fructu*, as Ziebarth says, and the interested reader will find the *testimonia* conveniently collected in *IG* XII, 9, p. 151–2. Parke shows (with Grote and against Beloch) that the Athenians sent two expeditions to Euboia in 349/8, first a small one composed of ἐπίλεκτοι and some ἱππεῖς, and then another one to rescue them. He does not, I think, succeed in showing that on this second occasion the Athenians went out πανδημεῖ. The passages he quotes from Demosthenes show merely that the cavalry were sent. And Parke himself supposes that when they arrived the hoplites were not needed and only cavalry were used.

But there are other and more serious difficulties in Parke’s account. His view (and indeed everyone seems to assume it—Grote states it explicitly⁶⁸) that Phokion went first to Eretria and later marched across Mt. Kotylaion to Tamynai is unlikely. Once they were in

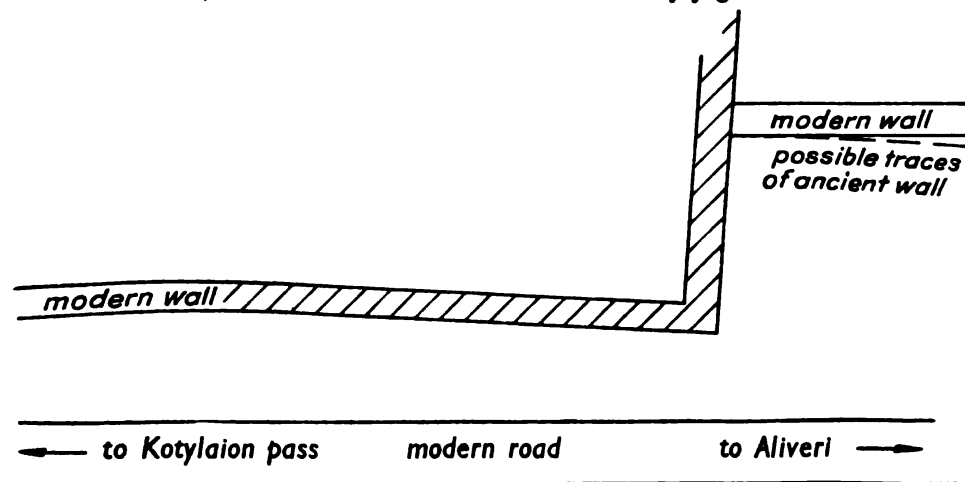
⁶⁸ George Grote, *A History of Greece* (London 1905: ten vol. ed.) chapter 38, p. 331.

Eretria why should not Phokion and Ploutarchos have waited there for the attack from Chalkis? Phokion more probably landed in the plain of the modern town of Aliveri⁸⁷ and marched inland to Tamynai, intending to enter the plain of Eretria from the east by crossing Mt. Kotylaion, perhaps because he found that the narrow coast road—or rather path—between the two plains, which is five miles long and very rough, had been fortified against him. (I have been along this road several times and have observed at the eastern end of the pass the remains of what may well be the foundations of a fort of the classical period or earlier.)⁸⁸ Aischines gives this sequence of events quite clearly in 3.86: ἐπειδὴ διέβητε εἰς Εὐβοίαν Πλουτάρχῳ βοηθήσοντες, τοὺς μὲν πρώτους χρόνους ἄλλ' οὖν προσεποιοῦνθ' ὑμῖν εἶναι φίλοι (that is, the Chalkidians), ἐπειδὴ δὲ τάχιστα εἰς Ταμύνας

⁸⁷ This is where the Persians landed in 490—see *Hesperia*, 16 (1947) pp. 130–3, where there is a detailed map of the Ἐρετρικὴ.

⁸⁸ Mt. Kotylaion meets the sea, occasionally in cliffs, but mostly in steep rocky slopes which are extremely rough; the modern road follows the shore, and for three or four miles is blasted out of the side of the hill much like the road along the Skironian cliffs. It is fairly clear that there was no ancient road for carts here, although there must obviously have been some kind of path connecting the plains of Eretria and Aliveri. At the eastern end of this pass where the road, following the foothills of Kotylaion, turns a little inland away from the sea (at the spot marked × on the map of Euboea in this book), are traces of what was perhaps a kind of fort or watch tower.

The remains consist of a rectangular corner of ancient wall, visible for some seven and a half metres along the road, and for some five metres at right angles, which has been employed as a foundation by the builders of the modern dry-stone field wall; the result is an otherwise unnecessary jog in the modern wall:



παρήλθομεν, καὶ τὸ Κοτύλαιον ὀνομαζόμενον ὄρος ὑπερεβάλλομεν, ἐνταῦθα Καλλίας . . . This sentence probably means that Kallias tried to persuade Phokion when he landed that he, Kallias, was more friendly to Athens than Ploutarchos was, but Phokion refused to be persuaded, advanced on Tamynai, and joined forces with Ploutarchos, intending to cross Kotylaion and reinstate his ally at Eretria. Kallias, who was in command of considerable forces 'from the whole of Euboia' (including some troops provided by Philip and some Phokian mercenaries secured by his brother Taurosthenes), and who had probably already been negotiating separately with Ploutarchos without obvious result, attacked Phokion. Ploutarchos, who in the sequel deserted to the enemy, must have joined Phokion at Tamynai because Eretria itself was now in the hands of Kleitarchos, whose revolution had been successful (Schol. Dem. 5.5); had Ploutarchos still been in control of the city with its excellent fortifications, this battle would not have been fought well to the east at Tamynai.

There is a fragment of Theopompos preserved by Steph. Byz. s.v. Δύστος (Jacoby, *Frag. Gr. Hist.* II B, F 149) which certainly refers to this war, and which supports, I think, this reconstruction of the events: ἀποστήσας δὲ τοὺς ἐν αὐτῇ τῇ περιοικίδι τῶν Ἐρετριέων, ἐστράτευσεν ἐπὶ τὴν πόλιν Δύστον. There is no indication of the subject of the sentence, and no one, as far as I know, has suggested who it might be or how such an expedition could fit into the events of this campaign. But if the subject is Kallias, all becomes clear; after driving Ploutarchos out of Eretria (if this had not been done by Kleitarchos before he arrived on the scene), Kallias secured the support of the inhabitants of the Eretrian plain, and then, crossing

The few visible blocks are large—the largest, at the corner, is almost 2 metres long and 70 to 80 cms. high—smoothed and level on the horizontal surfaces, with 'vertical' joins which are never exactly vertical (the accurate diagonal join between the last two visible blocks in the upper course of the short arm can be clearly seen in PLATE III). The thickness of the wall can be seen at one point—120 to 130 cms., made up of two blocks. Only two courses are at present visible on the side, and only one in front; the work is similar to parts of the Eretrian acropolis wall. The ancient foundations run under the field in both directions, but a very small excavation would determine their character. Nearby in the field is a large threshold block with cuttings for door-posts; I also saw a great many sherds (none, to me, distinctive) scattered through the earth of the field. As far as I can discover, these remains have not been observed before, or at least not described in print.

or marching around Kotylaion, pursued Ploutarchos as far as Dystos—a strong fortification which rises on a conical hill above a surrounding marsh. On the report of Phokion's landing Kallias would naturally fall back on Tamynai, which was roughly ten miles north-west of Dystos, to avoid being cut off from Eretria and Chalkis; he then probably began to negotiate separately with both Ploutarchos and Phokion. Ploutarchos, wavering, joined forces with Phokion, but deserted to the enemy when it came to fighting. This interpretation explains the site of the battle, which is a serious difficulty in other reconstructions.

Again, Parke supposes that when the Athenian relief expedition went out (he says 'πανδημει'), the cavalry landed at Argyra, the infantry near Styra. This would be very remarkable, for, although the site of Argyra is quite uncertain, the place is still known to have been in Chalkidian territory, and so well to the west of Eretria⁸⁹ while Styra, whence the Athenians *returned*, is the nearest port to Zaretra, and the most southerly town in the "Ερετρική." I should assume that the relief expedition, like the first one, landed in the plain of Aliveri, joined Phokion at or near Tamynai, assisted him in settling affairs at Eretria, and then moved south to fortify Zaretra, returning to Athens from Styra. What a small detachment of Athenian cavalry was doing at Argyra is not at all clear, but since Phokion summoned them ἐπὶ τὴν διαδοχὴν, and since Argyra, wherever it was, was not on the way from Athens either to Tamynai or to Eretria, they were not the relief expedition.

Finally, Parke suggests that Hegesilaos preceeded Molossos as commander in Euboea; but Molossos is stated to have succeeded Phokion (Plu. *Phokion* 14), and it seems more likely that Hegesilaos was sent out when Molossos was captured, perhaps to save as many as possible of Molossos' men. Ploutarchos' treachery (at which Hegesilaos winked?) apparently consisted in first coming to terms with the Athenians, represented by Hegesilaos, and then handing over some Athenian prisoners to his mercenaries to be held to ransom—for 50 talents, which at two minai apiece would represent 1500 men, but the rate was probably higher.

⁸⁹ See Fr. Geyer, *Topographie u. Geschichte der Insel Euboea*, pp. 44-5, and Ziebarth in *IG XII*, 9, p. 168.

II. THE HOARDS AND THE CHRONOLOGY

The dates given by Head and Babelon are, as we have seen, accurate for the earliest issues of the Euboian League, the Aiginetic didrachms, and they are reasonably accurate, too, for the tetradrachms and drachms of Attic weight. Head, however, on stylistic and historical grounds, dated the drachms of lighter weight between 369 and 336, while Babelon supposed that they ran down as late as 313 only, although he did envisage the possibility that some might belong to the third century. Head's dates were those generally accepted, for it seemed *a priori* probable that the Macedonians, like the Athenians before them, would have restricted the right of autonomous coinage in the states which were closely under their control—Newell, in 1921, wrote: "... 338 B.C., at which date the island of Euboea finally fell into Philip's power and all local coinage ceased."¹ That in point of fact the Euboian coinage runs down into the third century was first maintained by Mme. Varoucha in 1941 on the basis of her preliminary study of the Eretria hoard of 1937,² and of the information she collected about the Koskina hoard (see no. 2 below), for she put the drachms with a dolphin as symbol (not known to Head or Babelon) in the time of Demetrios Poliorketes. In this she was followed by Professor D. M. Robinson, who also attempted for the first time to arrange the various drachm issues in their chronological order.³ With the kind permission of Mme. Varoucha I have been able

¹ E. T. Newell, *The Octobols of Histiaea*, NNM 2 (New York 1921) p. 10. Newell, however, to some extent changed his mind on this point, as is clear from his later remark about the drachms of Chalkis, that "the accepted dating of these pieces in the last half of the fourth century is probably correct."—*Alexander Hoards, Olympia*, NNM 39 (New York 1929) p. 17.

² Owing to the kindness of Mme. Varoucha of the National Numismatic Museum in Athens, who has already discussed this hoard briefly in *Epitymbion Tsounta* (Athens 1941) pp. 670–672, and who intends shortly to publish it in detail, I was enabled to study the hoard in Athens in 1952 and am permitted to make use of the information here. I take this opportunity of expressing my gratitude for her assistance and her generosity, shown in many ways during my stay in Greece.

³ See D. M. Robinson, *A Hoard of Silver Coins from Carystus*, NNM 124 (New

to make a detailed study of the large Eretria hoard of 1937, and this, with the supporting evidence of a number of smaller hoards, makes it possible, I think, to establish the chronology of these issues on a firm basis. It is best to begin the discussion with a list of the hoards known to me which contained coins of the Euboian League. They vary greatly in importance, and some of the groups listed here may even not be hoards, but it seems desirable to have all of the possible evidence collected in one place.

1. *The Eretria hoard of 1937.* 500 + \mathcal{A} . 474 in Nat. Num. Mus., Athens.

- 1 tetradrachm of Philip II
- 8 drachms of Alexander III
- 1 tetradrachm of Demetrios Poliorketes
also 1 drachm and 1 hemiobol
- 3 tetradrachms of Lysimachos
also 1 drachm
- 8 tetradrachms of Antigonos Gonatas
- 1 triobol of Phokis
- 1 didrachm of Opountian Lokris
- 5 didrachms of Boiotia (one of them Tanagra)
also 2 early and 5 late drachms
- 3 didrachms of the Euboian League
of these 1 is from Group 1 and 2 from Group 2

York 1952). Professor Robinson kindly made photographs of the coins of this hoard available to me prior to the publication of his monograph, and allowed me to read his manuscript, but I was unable to persuade him that the wear of the different issues in his hoard was consistent, and a valuable aid in establishing the chronology. He preferred to depend entirely on stylistic and historical considerations in arriving at the following dates for the various issues:

- drachms with lyre symbol c. 367-357 B.C.
- drachms with satyr's head c. 357-348
- drachms with kantharos c. 340-?
- drachms with grapes c. 335
- drachms with no symbol c. 320-?
- drachms with dolphin c. 294-265

As this order is clearly contradicted by the condition of the coins of the various groups in all the hoards known to me (including this section A of hoard 4 where it is obvious, for instance, from Professor Robinson's own plates, that the drachms without symbol are much more worn than those with the kantharos), and as I find his stylistic arguments unconvincing and difficult to summarize, I shall not discuss them here in detail, but refer the reader who wishes to consider them to the publication mentioned above.

- 7 tetradrachms of the Euboian League
 - of these 6 from Group 1 and 1 from Group 2
- 275 drachms of the Euboian League
 - of these 42 – no symbol
 - 12 – grapes
 - 79 – kantharos
 - 81 – lyre
 - 48 – satyr's head
 - 13 – dolphin
- 31 tetradrachms of Athens
- 7 drachms of Rhodes
- 106 tetradrachms of Ptolemies I, II, and III.

In addition to these, which are in the Numismatic Museum in Athens, the following coins, probably from the hoard, were noticed in trade in Athens during June 1937 (letter from an Athenian correspondent on file at the American Numismatic Society in New York):

- 3 didrachms of the Euboian League, very worn
- 30 Ptolemy I
- 15 Lysimachos
- 1 Philetairos
- 7 Antigonos Gonatas

The following coins, mentioned by Mme. Varoucha *loc. cit.* (note 2 above), were not secured by the National Numismatic Museum; they doubtless overlap the group mentioned by the correspondent of the A.N.S.:

- tetradrachms of the first two Ptolemies
- 1 didrachm of Philetairos
- tetradrachms of Athens
- drachms of Chalkis
- drachms of Rhodes

Burial date—c. 235? (or c. 220?)

Preliminary notice published by Mme. Varoucha in *Epitymbion Christou Tsounta* (Athens 1941) pp. 670–672.

Certainty about the burial date of this hoard must wait on the appearance of Mme. Varoucha's full publication. Meanwhile I have tentatively adopted a date some 15 years earlier than that suggested by her in the article just mentioned because of the very slightly worn condition of the last issues of Ptolemy II (who died in 247) and of the

tetradrachms of Antigonos Gonatas⁴ (who died in 239) contained in it, and because I am not sure that the late Boiotian drachms (facing Demeter/standing Poseidon) need be put as late as 220; a date about 235 seems also to fit the Euboian League issues better. This is much the most important hoard, so far discovered, for the arrangement of the issues of the Euboian League. For discussion, see below.

2. *The Koskina (Eubolia) hoard of 1923-4.* Several hundred? AR.

This hoard was dispersed soon after its discovery, but what information about it is available has been collected by Mme. Varoucha, *loc. cit.*, pp. 672-674. She shows that it was not buried until early in the second century, and that it also makes a third century date necessary for some at least of the Euboian League drachms.

3. *The Eubolia-Boiotian hoard discovered in the spring of 1951.*

About 350(?) AR. Dispersed.

The find included the following:

30 didrachms of the Euboian League (I have casts or photographs of
26 of these)

16 with head on rev.—slightly more worn than the

14 with head on obv.

These 30 are all entered in the catalogue






68-70 Theban didrachms (at least 9 are countermarked on shield)


1 - head of Herakles r.

2 - facing head of Dionysos

5 - Dionysos r.; behind, Θ Ε

⁴ *Obv.* Macedonian shield, head of Pan on boss

Rev. archaistic Athene Alkidemos l. between Macedonian helmet (l.) and monogram (r.)—, , , , or .

These eight tetradrachms show only very slight traces of wear. That they certainly begin in the reign of Antigonos Gonatas has been shown by Miss Hanna Cox in "A Third Century Hoard of Tetradrachms from Gordion," a Museum Monograph of the University Museum, University of Pennsylvania, published in 1953. In this Gordion hoard no. 53 of the above types is much more worn than nos. 54 and 55 which are "head of Poseidon / Apollo on prow" issues of Doson, and it seems to carry the monogram  which appears on four of the eight coins of the Eretria hoard. If these eight coins belong to Gonatas and so were struck before 239 B.C. (probably in the decade 250-240: see Miss Cox's remarks) the burial of the hoard should not be brought much below 235.

5 – Dionysos r.; below, Θ Ε

55–57 others

1 Tanagra didrachm

1 didrachm of Sikyon (with lion, not chimaera)

2 Athenian tetradrachms

39 of uncertain types

(of these 30 were seen in Paris and 6 in Rome)—not the same coins as those listed above, all of which were seen in Athens, London or New York at dates which make duplication unlikely.

141–3 (probably less than half of the total number)

Burial date—about 400 B.C.

I learned from what I believe to be a reliable source that this hoard contained no tetradrachms of the Euboian League. The same source informed me that the total number of coins in the hoard was about 350. It is interesting that the League didrachms with the head on the reverse are slightly more worn than those with the head on the obverse.

4. *The Karystos hoard of about 1945*. 378 (+?) *Æ*.

Section A. Published by Professor D. M. Robinson. 92 *Æ*

1 tetradrachm of the Euboian League

30 drachms of the Euboian League (one of them an ancient forgery); for details see Robinson's publication

35 didrachms of Karystos

8 drachms of Karystos

6 tetradrachms of Athens

2 didrachms of Elis

3 tetradrachms with Alexander's name and types

3 drachms with Alexander's name and types

1 tetradrachm of Seleukos I

1 tetradrachm of Antiochos Hierax

Burial date—about 230 B.C.

For the publication see note 3; for discussion of the tetradrachm and the forgery see notes 9 and 13 on pages 76 and 81. These coins required severe cleaning, so that their present weights are not an accurate indication of the extent to which they were worn when buried. It is clear, however, from Professor Robinson's plates that the drachms without symbol and the one with the grapes symbol

(his nos. 65-70 and 71) are more worn than those with the kantharos, lyre, and satyr's head symbols (nos. 46-64), and fairly clear that those with the dolphin (nos. 72-74) are the least worn.⁵

Section B. 286 \mathcal{A} .

236 drachms of the Euboian League

1 - Attic weight	Wallace EL 271
3 - high relief	Wallace EL 272-4
15 - no symbol	Wallace EL 275-289
22 - grapes	Wallace EL 290-311
75 - kantharos	Wallace EL 312-386
65 - lyre	Wallace EL 387-451
33 - satyr's head	Wallace EL 452-484
22 - dolphin	Wallace EL 485-506

23 coins of Karystos

11 didrachms with KA-PYΣ.	Wallace KA 69-79
1 didrachm with KAPYΣTION	Wallace KA 80
1 didrachm with \mathcal{A}	Wallace KA 81
2 didrachms with \mathcal{A}	Wallace KA 82-3
4 drachms with KAPY	Wallace KA 84-7
2 drachms with KAPYΣ	Wallace KA 88-9
1 drachm with KAPYΣTION	Wallace KA 90
1 drachm with \mathcal{A}	Wallace KA 91

12 coins with Alexander's name and types⁶

- 1 tetradrachm of Marathos, c. 315-301 B.C. Γ l. and K below throne
- 1 tetradrachm of Tyre, c. 306-301 B.C. Θ l. and Θ below throne
- 1 tetradrachm of Miletos, c. 294 B.C. \mathcal{M} l.
- 1 drachm of Sardes, c. 325 B.C. \mathcal{E} l. and club r.
- 1 drachm of Teos (?), c. 324 B.C. branch l. and spear-head r.

⁵ Professor Robinson's indications of condition (*loc. cit.* p. 11 and pp. 35-38) must be used with care, for they seem to confuse wear with condition in the collector's sense; thus he describes no. 63, which is rather badly oxidized, as "worn" (the second worst of his six categories) although the vertical line on the cow's nose—the highest part of the reverse—is sharp and clear. Of the 47 coins known to me from this reverse die no. 63 shows the least wear. His no. 62, which is much lighter (he gives its weight as 3.34 in his list on p. 37, but as 3.44 in his table on p. 11), is described as "somewhat worn" but can be seen from the plate to be more worn than 63: it is from the same dies as 63, although this is unfortunately not clear from the plate as the coins are in poor condition and the two reverses are lighted rather differently. There are also other discrepancies in his descriptions of condition—thus no. 60 is called "fine" on p. 11, but on p. 37 it is called "very good."

I am indebted to Miss Margaret Thompson of the American Numismatic Society for the identification and dating of these coins.

4*

4 drachms of Kolophon, c. 320, c. 313 (TI l. and Γ below), c. 310 (K l., Φ below), and c. 305 (lion's head and Φ l, pentapha below)
 2 drachms of Abydos, c. 310 B.C. M l. and ivy-leaf below
 1 drachm of an uncertain mint, Π and grapes l.

2 coins with name and types of Lysimachos

1 tetradrachm of Lampsakos, 297–281 B.C. (see Newell's *Olympia Hoard* no. 76)

1 drachm of Ephesos, c. 294–181 B.C. Bee between E–Φ l.

1 drachm of Seleukos I, mint uncertain. 305–281 B.C.

1 tetradrachm of Antiochos I from Seleukia on Tigris. 278–274 B.C. (see Newell's *Eastern Seleucid Mints* no. 140, pl. 13,8)

11 tetradrachms of Athens, all probably late 4th and early 3rd cents.

286

These 286 coins are believed to have belonged to the same hoard as section A above, and their composition makes this not at all unlikely; the degree of wear of the various groups of League drachms seems closely similar in both sections; the coins of both sections were covered with a very thick purplish-brown incrustation; in both cases severe cleaning was necessary, which reduced the weight of individual pieces by as much as one-fifth. Whether or not they belong together, the date of burial must have been about the same, for the least worn non-Euboian coin in section B—the tetradrachm of Antiochos I which dates about 275 B.C.—shows signs of a fair amount of circulation (it is more worn, for instance, than the dolphin drachms). The order in which they are listed follows the apparent degree of wear of the individual issues of the Euboian League; once again it is easy to see that the first four groups are more worn than the kantharos, lyre, and satyr's head groups, and although the distinction between these is not altogether obvious it is clear that the dolphin drachms are less worn than any of the others. The non-Euboian coins fall between 325 and 275 B.C., thus confirming in general the dates suggested below for the Euboian issues. Unfortunately the cleaning required makes the weights much less significant than those of the Eretria hoard of 1937. The most welcome feature of the hoard is the appearance in it of three of the rare drachms in high relief for the date of which there had been very little evidence. It will also be invaluable for the arrangement of the issues of Karystos.

5. *Hoard in private possession in Athens in 1952.* 66+ *AR*.

All in the lot shown to me were Euboian League drachms:

- 4 – no symbol, including Wallace EL 252 and 254
- 4 – grapes
- 21 – kantharos, including Wallace EL 251
- 21 – lyre, including Wallace 249 and 253
- 9 – satyr's head, including Wallace EL 250 and 255
- 9 – dolphin

68

Two of these coins did not come from the hoard, but which two was uncertain. No information was available about date or place of finding. I was able to weigh and examine these coins (which had apparently been cleaned, but were in good condition) and to observe that those without symbol seemed somewhat more worn than those with the grapes symbol; both of these were more worn than those with the kantharos, lyre, or satyr's head, the distinction between which was not clear; and those with the dolphin were the least worn. The coins are all entered in the catalogue.

6. *Hoard found near Eretria in 1935.* About 260 *AR*. Dispersed.

The coins were all drachms. The following 19 are in private possession in Athens; I was able to photograph, weigh and examine them. They are entered in the catalogue.

- 18 drachms of the Euboian League
 - 1 – grapes
 - 5 – kantharos
 - 7 – lyre
 - 4 – satyr's head
 - 1 – dolphin

1 drachm of Histiaia (with monogram)

19

Of these coins the one with the grapes was the most worn, the one with the dolphin, least. Those with the satyr's head seemed somewhat more worn than those with the kantharos and those with the lyre, but had actually lost less weight—see Table on page 64.

7. *Karystos hoard of about 1930 (?)*. Size unknown. Dispersed.

The following five coins were said to be from this hoard, and all show the same reddish brown oxidation:

1 didrachm of the Euboian League	– Wallace EL 2
1 tetradrachm of the Euboian League	– Wallace EL 4 ⁷
1 Karystos didrachm (cow and calf)	– Wallace KA 3
1 Karystos didrachm (royal head)	– Wallace KA 2
1 Karystos drachm	– Wallace KA 1

5

I was also shown other coins from the hoard of which I made no record and have little recollection; my impression is that they were Karystos drachms and didrachms. The two Euboian League coins were much worn, having circulated for roughly two hundred years (the Karystos king or tyrant probably belongs in the late third century). It is interesting to find these League staters still current in Eubolia in the late third and early second centuries—13 of them occurred in the Eretria hoard of 1937 (no. 1 above), and one in the Karystos hoard of about 1945 (no. 4 above). The regular circulation of badly worn coins, and of foreign coins, is attested by innumerable hoards and surely shows that coins were normally exchanged by weight, not by face value as is so frequently assumed. It is pertinent, too, that “clipped” coins are rarely or never met with: I have never seen a Euboian coin which appeared to have been clipped.

8. *Hoard group*. Place and date of finding unknown. Number unknown.

The following 11 coins, showing a characteristic reddish deposit, were plausibly stated to have been found together:

10 Euboian League drachms
3 – no symbol – Wallace EL 60, 61, and 62
1 – grapes – Wallace EL 68
5 – kantharos – Wallace EL 63–67
1 – lyre – Wallace EL 69
1 early Histiaian tetrobol – Wallace HI 205

11

⁷ A photograph of this coin appears in *ANS Museum Notes VI* (1954) plate VIII, no. 4.

Here the three without symbol (and the Histiaian tetrobol) are obviously more worn than the others among which the one with the lyre seems least worn.

9. *Hoard group*. Place and date of finding unknown. Number unknown.

The following 9 coins were secured at the same time through the same dealer and the comparative wear of the coins with the various symbols is consistent with that shown by similar coins in other hoards; the character of the oxidation is generally similar, but there was no statement about whether or not they were found together:

9 drachms of the Euboian League

- 1 – Attic weight – Wallace EL 112
- 2 – without symbol – Wallace EL 113 & 114
- 2 – with kantharos – Wallace EL 117 & 118
- 2 – with lyre – Wallace EL 115 & 116
- 2 – with dolphin – Wallace EL 119 & 120

The Attic weight drachm and those without symbol were much worn, the kantharos and lyre drachms considerably worn, one of the dolphins was little worn and one considerably (this last coin, because of its wear, and the Attic drachm, because of its wear and appearance, should perhaps be dissociated from the others). No conclusions whatever could be based on this group of coins if it stood alone, but the fact that its wear is similar to that of the known hoards perhaps allows it to increase slightly the total weight of the evidence.

10. *Hoard group*. Place and date of finding unknown. Number unknown.

The following 15 coins were secured at the same time through the same dealer. They are all in the same miserable condition, oxidized and crystallized (six of them are broken), and the comparative wear of the different issues also indicates—although it was not stated by the dealer—that they come from the same hoard. All are Euboian League drachms:

15 drachms of the Euboian League

- 1 – high relief – Wallace EL 97
- 1 – no symbol – Wallace EL 98

- 1 – grapes – Wallace EL 99
- 3 – kantharos – Wallace EL 108–110
- 4 – lyre – Wallace EL 104–107
- 4 – satyr's head – Wallace EL 100–103
- 1 – dolphin – Wallace EL 111

The drachms in high relief, without symbol, and with the grapes are clearly the most worn; there is little to choose between those with the kantharos, the lyre, and the satyr's head; and the dolphin drachm seems slightly less worn than these last. The group of coins, in spite of their poor condition, is interesting because one of the drachms in high relief occurs in it, and supports the conclusion to which various other indications also point (see especially hoard 4), that the "high relief" group comes early in the series of Euboian League drachms of lighter weight (see page 87).

II. Hoard (?) found in Greece about 1949. 85+ (?) *AR*.

The following coins were stated by the dealer through whom the drachms were secured to have been found together. The descriptions of condition for the staters are based on a photograph of one side only; for the drachms, on the coins themselves:

- 1 tetradrachm of the Euboian League – worn
- 1 didrachm of Thespiai (Aphrodite and crescent moon) – worn
- 1 didrachm of Tanagra (half horse r., wreath around neck, T-A) – worn
- 4 didrachms of Thebes
 - 1 – head of Dionysos, Θ-E below – worn
 - 2 – amphora and Θ-E – worn
 - 1 – amphora, bow and grapes, Θ-E – little worn
- 1 didrachm of Boiotia (amphora, BO-IO retro.) – worn
- 1 didrachm of Orchomenos (amphora, EP-X, EYΘ above) – worn
- 20 didrachms of Boiotia with abbreviated names

worn	– FΑΣ (1)
rather worn	– ΑΡΚΑ (1)
	ΘΕΟΓ (1)
	ΚΛΙΩ (2)
	ΤΙΜΙ (1)
little worn	– ΑΓΛΛ (2)
	ΑΝΤΙ retro. (1)
	ΑΡΚΑ (1)
	ΔΑΙΜ (1)

- ΔΙΟΚ (1)
- ΕΥΓΙ (1)
- ΕΥΦΑ and ΠΑ (1)
- ΟΝΑΣ (1)
- ΠΤΟΙ (1)
- very slightly worn – ΑΡΚΑ (2)
- ΚΑΛΑΙ (2)
- 1 drachm of Thebes (oinochoe in incuse square)
- 1 drachm of Thebes (Zeus/Nike)
- 6 didrachms of Aigina (divided shell/symbols on rev.)
- 5 staters of Corinth
 - 4 – head l., little worn
 - 1 – head r., half horse behind, worn
- 2 drachms of Corinth
- 1 stater of Elis (elaborate winged thunderbolt, F-A—type of Pozzi 1869)
- 12 drachms of Opountian Lokris
- 6 drachms of Chalkis – Wallace CH 227–242
- 22 drachms of the Euboian League
 - 3 – without symbol – Wallace EL 153–155
 - 1 – grapes – Wallace EL 152
 - 7 – kantharos – Wallace EL 156–158, 162, 171–173
 - 3 – lyre – Wallace EL 159–161
 - 7 – satyr's head – Wallace EL 164–170
 - 1 – dolphin – Wallace EL 163

In spite of the express statement that all of these coins were found together, it is quite clear that the 20 Boiotian “magistrate” didrachms of the mid-fourth century, some of which are in extremely fine condition, cannot have come from the same hoard as the Euboian League drachms, for these, as we have seen, must run down into the third century, while the Elis didrachm appears to belong to the late third century. I suspect that two hoards, one largely composed of staters and one largely of drachms, have been mixed together. In any case it is reasonably clear from their similar appearance and consistent wear that the Euboian League and Chalkis drachms did form part of a hoard. Of the Euboian League drachms much the most worn are those without symbol, then come the grapes, there is little to choose between the coins with the kantharos, lyre and satyr's head, and the single dolphin drachm seems less worn than the others.

The hoard is interesting, too, for the light which it throws on the comparative dates of the different issues of Chalkis drachms (although

these are unfortunately few in number); I hope perhaps to discuss these at some future date.

The comparative condition of the Boiotian staters with magistrates' names may be of interest for the arrangement of this series, and has been carefully described from the reduced but clear photograph of the reverses only which was all that was available to me; within the different categories the arrangement is alphabetical. It may be noticed that the four coins with the name APKA vary considerably in the amount of wear which they show. Such differences within one small group are frequent in hoards, and mean that arguments from condition should be based either on a large number of coins from one hoard or on the comparative condition in a number of different hoards.

12. Hoard group found some time before 1950. 52+*AR*.

The following coins were secured at the same time through the same dealer, and are probably, to judge from their similar appearance and consistent wear, part of the same hoard, although no statement to that effect was made by the dealer (whom I was not able to question):

27 drachms of the Euboian League

- 8 – without symbol – Wallace EL 127–134
- 2 – grapes – Wallace EL 125 & 126
- 6 – kantharos – Wallace EL 135–140
- 3 – lyre – Wallace EL 141–143
- 5 – satyr's head – Wallace EL 147–151
- 3 – dolphin – Wallace EL 144–146

24 drachms of Chalkis – Wallace CH 243–266

1 hemidrachm of Chalkis – Wallace CH 267

In this group of coins the now familiar pattern of wear is very clear—the drachms without symbol are the most worn, next come those with the grapes, the condition of those with the kantharos lyre and satyr's head is hard to distinguish by eye, and the three with the dolphin are clearly the least worn. The group of Chalkis drachms would be more interesting if they were not mostly—17 of them—the unattractive issue with the ZH monogram, usually described as “late and barbarous” (so, for instance, in the *British Museum Catalogue*;

but it is clear, both from this hoard and from the last one described, to mention only two, that they are not so late as, for instance, the drachms with the caduceus symbol).

13. *Small hoard found in Euboia about 1950. 38 + AR.*

The dealer through whom the following coins were secured said that they were stated to have come from Euboia, and that they had probably been found in 1950. They were in poor condition and were covered with a heavy deposit which left no doubt at all that they had been found together. In the course of cleaning the whole surface layer flaked off leaving the coins very light and in some cases scratched, but otherwise restoring the surface to something approximating its condition at the time of burial; it was thus possible to identify the dies, and to estimate the degree of wear with some accuracy although no dependence for this purpose can be placed upon the present weights. In the hoard listed as number 4 above the condition of the coins is somewhat similar, although both sections of that hoard were cleaned more expertly:

31 drachms of the Euboian League

4 - without symbol	- Wallace EL 221-224
2 - grapes	- Wallace EL 219 & 220
8 - kantharos	- Wallace EL 236-243
8 - lyre	- Wallace EL 229-235 & 244
4 - satyr's head	- Wallace EL 225-228
5 - dolphin	- Wallace EL 214-218
1 Karystos didrachm with Δ	- Wallace KA 53
2 Karystos drachms	- Wallace KA 54 & 55
2 Athenian tetradrachms	
2 Alexander-type drachms	

38

Among the Euboian League drachms, those without symbol seem the most worn, the grapes show the next greatest wear, it is hard to decide between the drachms with the kantharos, lyre, and satyr's head symbols, and those with the dolphin show little wear. The other coins all seem to show a medium degree of wear—it is difficult to compare accurately the wear of coins of very different types.



14. *Hoard group*. Date and place of finding unknown. 37+AR.

This small group of coins was secured through a dealer who could or would give no information about them. They were similar in appearance to the last group, heavily oxidized so that the type was frequently unrecognizable; I have no doubt that they were all found together. In cleaning, a thick layer flaked off from the surface of every coin, so that their weights are now light and irregular, but the surface is sufficiently sharp and clear for the dies and the degree of wear to be easily determined.

30 drachms of the Euboian League

10 – kantharos	– Wallace EL 204–213
14 – lyre	– Wallace EL 184–197
4 – satyr's head	– Wallace EL 200–203
2 – dolphin	– Wallace EL 198 & 199

3 didrachms of Karystos

1 – with KA-PYΣ	– Wallace KA 49
1 – with 	– Wallace KA 50
1 – with 	– Wallace KA 51

4 Alexander-type drachms

Among the Euboian League drachms there seemed little difference between those with the kantharos, lyre and satyr's head symbols, but those with the dolphin were distinctly less worn.

15. *Hoard group*. Date and place of finding unknown. 90+ AR.

The 69 coins listed below were stated by the dealer in Athens, in whose possession they were in 1954, to have been secured by him at the same time from the same man; 18 others in his possession (16 Euboian League drachms and 2 Alexander-type drachms), not described below, were in the same group which, when he secured it, contained more than 90 coins. The dealer did not say that they were a hoard, but he supposed, in view of their similar types and condition, that they had probably been found together. With the exception of one of the three drachms with the grapes symbol which seems rather too well preserved, the wear of the coins in each of the different symbol groups seems very similar, and it is obvious that we have to do with a hoard group with few, if any, intrusions. The coins without symbol are obviously the most worn, and those with the dolphin symbol are

the least. Between them it is difficult to distinguish by eye between the wear of the grapes, kantharos, lyre and satyr's head groups; good photographs were available, but no weights or die positions.

68 drachms of the Euboian League

7 without symbol


3 grapes

20 kantharos

12 lyre

18 satyr's head

8 dolphin

1 Alexander-type drachm of uncertain mint:  left, EY below throne

The fifteen hoards listed above, of which only number 1 can claim to be approximately complete, obviously contain some coin groups on which no sober scholar would care to base any conclusions at all, while number 1, the Eretria hoard of 1937, is as valuable in arranging the issues of the League as any hoard could well be—unless, indeed, a similar one several times as large should become available for study. All fifteen have, however, been listed together to show that the Eretria hoard of 1937 by no means stands alone in fixing the order of the League issues, and in determining that they continued into the third century—that, in short, there is nothing in any way unusual or peculiar about it.

It is interesting to notice that in most of the hoard groups the kantharos and lyre coins are the most numerous, while the grapes and dolphin coins are fewest. This is the same relation as that between the total numbers known of each type, and so probably corresponds to the size of the original issues—in short no single large find of one type has upset the ratio. If one were to judge the size of the issues purely by the number of dies used for each (see the *Synopsis* on page 118), one would assume—probably erroneously—that the issue with the satyr's head was as large as that with the kantharos.

In all of the hoards the drachms without symbol are the most worn (neglecting for the moment the small group in high relief), and those with the dolphin are the least worn, of the lighter issues of the League. Of the other symbol groups it is fairly clear that the drachms with the grapes come early, but it is usually difficult to distinguish

the comparative wear of the drachms with the kantharos, lyre, and satyr's head.

In estimating the degree of wear shown by different coins, it is helpful if the coins to be compared are of identical types; it is also helpful if they are not too numerous, for it is difficult to determine with the eye the average wear of a group of coins. One may compare the wear of two coins struck from the same dies with great accuracy; one may still be very accurate if they are of the same type, from different dies; but if the coins to be compared are either different in type, or numerous, only large differences in wear can be recognized with certainty. A complicating factor which has never, as far as I know, been taken into account, is the composition of the metal of the coin—some silver alloys are softer and wear faster than others. Thus the drachms of Chalkis, which on the whole have a composition much like that of Sterling silver, undoubtedly wore less rapidly in circulation than those of the Euboian League which contain only about 1 % of copper on the average.⁸ Another complicating factor is the difference of different students' opinions about the degree of wear of the same coins; I have called attention to one case of such disagreement above.⁹

Wear, however, not only blurs the surface, it reduces the weight of the coin. It is thus possible to tell which of two coins of identical types is the more worn simply by weighing them—providing that neither coin has lost (or gained) weight in other ways, such as oxidation, incrustation, breaking, cleaning, etc. The weight will, of course, be an accurate indication of the degree of wear only if the series to which the coins belong was accurately struck so that it is a fair presumption that the two weighed approximately the same amount when they came from the mint. And if two coins of different types, or even of different issues of the same type, are to be compared, it is essential that the normal or standard weight to which each of the two series were struck should be known,¹⁰ and that these standard

⁸ See "Impurities in Euboean Monetary Silver," Allin and Wallace, *ANS Museum Notes VI* (1954) pp. 35-67.

⁹ See note 5 above.

¹⁰ There is obviously room for difference of opinion and for error in the determination of the original normal or standard weight. I discuss the way in which I have determined it at the beginning of the next chapter, and feel that the

weights should not be too widely separated: obviously the comparative wear of an Aiginetic didrachm and of a Corinthian drachm found in the same hoard cannot be determined by seeing which coin has lost more weight, for the didrachm has a larger surface, and it is unlikely that coins of these two denominations passed equally often from hand to hand. Finally, it is difficult to be sure that there is an accurate correspondence between the amount a coin has lost in circulation and the length of time between its minting and its burial—indeed coins of the same group found in the same hoard often show differing degrees of wear—as has already been remarked.

But if all of these considerations are kept in mind, if only coins which, apart from wear, are clearly in fairly good condition are used in the calculation, if the original weights of the series to which they belong are accurately known and not too dissimilar, and if the average weight of a considerable number of coins of the same series is used rather than the weights of individual specimens, then it should be possible to determine how much weight, on the average, the coins of the different series in a hoard have lost. The larger the hoard, the more dependable will be the result. Indeed the method, under favorable circumstances, should be able not only to tell us the order in which different series were struck, but also to give us a numerical relationship between the periods of circulation—at the time the hoard was buried—of the different series involved.

Fortunately the Eretria hoard of 1937 contained 275 drachms of the Euboian League, most of them in very good condition aside from wear. The following table shows the average loss of weight of the various groups of Euboian League drachms in it, and also in several of the other hoards listed above; the figures were secured by subtracting the average weight of the drachms of each group in the hoard from the standard or normal weight of each group as determined from the frequency tables (see the chapter on the "Silver Issues" and the "Synopsis" on page 118). Coins which appeared to have gained or lost weight by oxidation, breakage, etc., have been omitted from the calculation, and, accordingly, the number of coins on which the averages are based is indicated in each case.

probable error in the figures adopted is very small; it must, however, be admitted that the possible error is considerable.

TABLE SHOWING AVERAGE LOSS OF WEIGHT IN HOARDS

<i>Hoard</i>	<i>No symbol</i>	<i>Grapes</i>	<i>Kantharos</i>	<i>Lyre</i>	<i>Satyr's head</i>	<i>Dolphin</i>
No. 1 ¹¹ (215 coins)	.165 gms (30)	.169 (11)	.14 (70)	.11 (58)	.08 (34)	.047 (12)
No. 4B ¹² (213 coins)	.73 (11)	.78 (20)	.65 (73)	.65 (65)	.66 (24)	.51 (20)
No. 5 (67 coins)	.23 (4)	.26 (4)	.18 (20)	.15 (21)	.08 (9)	.09 (9)
No. 6 (18 coins)	? (0)	.30 (1)	.16 (5)	.20 (7)	.09 (4)	.17 (1)
No. 11 (16 coins)	.58 (2)	.52 (1)	.39 (5)	.25 (2)	.25 (5)	.11 (1)
No. 12 (26 coins)	.24 (8)	.19 (1) ¹³	.16 (6)	.19 (3)	.12 (5)	.07 (3)
No. 13 ¹⁴ (31 coins)	.53 (4)	.64 (2)	.52 (8)	.46 (8)	.42 (4)	.37 (5)

It is readily seen from this table that only the Eretria hoard of 1937 is large enough, and composed of coins in good enough condition, to provide statistical results in which one can have any real confi-

¹¹ Sixty of the drachms have been omitted, in about half of the cases because they were incrustated and had obviously gained weight as a result, in the rest because they had been cleaned electrolytically before weighing.

¹² I have not included Professor Robinson's section of the hoard in these calculations; his coins were cleaned by a somewhat different process, and it is better not to compare weights by different investigators using different scales. After subtracting the broken coins there remain 213 Euboian League drachms, but these have been cleaned so drastically and have lost weight so erratically that little confidence can be felt in conclusions drawn from their present weights. Nevertheless it is clear that the no symbol and grapes coins have lost more weight, and that the dolphins have lost less, than the other three groups.

¹³ I have omitted no. 125 from the calculation; for some reason (but not, I think, through wear) it is much the lightest coin in the hoard, weighing only 51.5 (3.33).

¹⁴ These coins have been severely cleaned (see p. 59), and are included here only to show the difficulty of arguing from the weights of such coins. It is my impression, based chiefly on the weights in this hoard and in nos. 4 and 14, that well worn coins suffer less from oxidation—or whatever produces the patination and incrustation that results from burial—than coins which have seen little circulation. I understand that, similarly, new table silver tarnishes more rapidly than silver which has been used for a life-time.

dence; indeed even here the numbers in the grapes and dolphin groups are a good deal smaller than one could wish. The other hoards (except no. 4, the coins of which were heavily oxidized) obviously do not contain enough coins in the various groups to justify making the average weights the basis of any further calculation, but it is worth while to notice that they, too, do in general indicate a similar relationship between the different issues. The argument which follows is based entirely on Hoard 1.

In Hoard 1 the kantharos drachms have lost three times as much weight as those with the dolphin, and should accordingly, at the time when the hoard was buried, have circulated about three times as long. Applying this type of argument to each of the groups, and taking the period of circulation of the dolphin drachms as the unit, we observe that

the *no symbol* drs. circulated about $3\frac{1}{2}$ times as long as the dolphin drs.

$$(3\frac{1}{2} \times .047 = .164)$$

the *grapes* drachms circulated about $3\frac{1}{2}$ times as long as the dolphin drs.

$$(3\frac{1}{2} \times .047 = .164)$$

the *kantharos* drs. circulated about 3 times as long as the dolphin drs.

$$(3 \times .047 = .141)$$

the *lyre* drs. circulated about $2\frac{1}{3}$ times as long as the dolphin drs.

$$(2\frac{1}{3} \times .047 = .110)$$

the *satyr's head* drs. circulated about $1\frac{2}{3}$ times as long as the dolphin drs.

$$(1\frac{2}{3} \times .047 = .079)$$

If we now assume a thirty year period of circulation for the dolphin drachms (the figure is admittedly rather arbitrary—the drachms show definite but not extensive traces of wear), and a date about 235 B.C. for the burial of the hoard (see above), the dates of the various groups may be determined as follows:

<i>Group</i>	<i>Approximate date</i>	<i>Date adopted in Ch. 1</i>
no symbol	$3\frac{1}{2} \times 30 + 235 = 340$	c. 340 B.C.
grapes	$3\frac{1}{2} \times 30 + 235 = 340$	c. 340–338
kantharos	$3 \times 30 + 235 = 325$	323–320
lyre	$2\frac{1}{3} \times 30 + 235 = 305$	302
satyr's head	$1\frac{2}{3} \times 30 + 235 = 285$	c. 289 or 279
dolphin	$1 \times 30 + 235 = 265$	270–267

The assumption of a shorter period of circulation for the dolphin drachms or of a later date for the burial of the hoard would, of course,

bring down the dates of all of the groups, including the earliest issues. Such a result would be rather surprising, for 340 when the Euboian League was reconstituted and undoubtedly took part in the last struggle against Philip is the latest "reasonable" date for the beginning of the lighter weight Euboian League drachms—it is already some thirty years later than the latest date which has been adopted hitherto on stylistic grounds. On the other hand, to assume a longer period of circulation for these dolphin drachms (an earlier date for the burial of the hoard is hardly possible) would make the rather slight wear of this issue, which is comparable with that of the coins of Ptolemy II in the hoard, difficult to understand. Thus although the figure "thirty" was adopted somewhat arbitrarily, there can be little doubt that it is roughly right if we are correct in setting the burial of the hoard about 235.

Whatever may be thought of the positive dates given by this argument—I should not be inclined to put any great weight on them if they were not also entirely reasonable from the historical point of view—there can be no doubt that the comparative dates are sound. It is also clear that we do not have to do with regularly spaced issues struck within a few years of each other, and so must not assume that the symbols appearing on the drachms stand for successive magistrates each in office for a definite period of, say, five or ten years. It seems more likely that coin was issued by the League only when specially needed—e.g., for military purposes—and that such occasions were, at the period in question, neither numerous nor close together.

It should be added, more or less as a footnote, that the loss of weight of the League didrachms, which can be dated with considerable accuracy, and of the tetradrachms, which must surely belong in the first decade of the fourth century (see page 10), can unfortunately not be used to check these results. They are too few in number, and so different from the drachms in shape and value that the loss of weight in circulation may have occurred at a different, and even at a very different, rate. The three didrachms have in point of fact lost about $\frac{1}{15}$ of their weight,¹⁵ and as they circulated for about 175 years (from 410–405 to about 235 B.C.) we might calculate that they lost about $\frac{1}{100}$ of their weight each quarter century. At this rate the

kantharos drachms, for instance, which have lost just more than $\frac{1}{28}$ of their weight, should have circulated for from 80 to 85 years, whereas the period arrived at above for them is actually 85 to 90 years. This happens to be a strikingly close result, but it is clear that such calculations should only be made if they can be based on a considerable number of coins of the same denomination. This one, based on different denominations and on only three didrachms, was made here only *exempli gratia*, since as far as I know this method has never been employed, and it seems worth while to suggest its possibilities. There may well be other large hoards which contain enough coins of some accurately datable series to make it possible to establish, within a single hoard, a rate of loss of weight. Such a figure, cautiously employed within a single large hoard of varied contents, might yield extremely interesting results. For the present we may claim to have established the comparative dates of the issues of the Euboian League with practical certainty, and to have approximated the positive dates fairly closely. Exactly how close the approximation is one can hardly tell until further evidence accumulates, but as can be seen from Chapter I reasonable occasions for the issue of coin did exist at or near all of the dates indicated.

¹⁵ They weigh 11.56, 11.50, and 11.30; these coins were apparently struck at about 12.25 gms: see p. 74.

III. THE SILVER ISSUES OF THE LEAGUE

The various silver issues of the League are listed below with approximate dates, descriptions, diagrams to show the number and interconnection of the dies, and frequency tables of their weights. The chronology has been dealt with in the two previous chapters.

The League dies known to me are numbered continuously in the order in which they appear in this chapter, the obverse dies in Roman and the reverse in Arabic numerals. The dies and die combinations listed in the die diagrams are probably in a good many cases complete, for almost all of them are attested by a number of examples, as may be seen by reference to the catalogue, and as is indicated in the diagrams themselves; further discoveries will probably not add greatly to our information on this subject. The order in which the dies appear in each group is not, however, usually chronological—it often seems that all the dies of a group were in use at the same time; where sequence is discoverable the fact is indicated in the discussions of the various groups.

The frequency tables require a word of explanation. There was obviously no point in making the intervals of these tables smaller than the smallest difference which the scales used by the Euboian mint were capable of detecting, for smaller differences in weight than that, although they of course exist, have no significance. The scales employed in different ancient mints, and in the same mint at different dates, undoubtedly differed in accuracy, and it is clear too, as we shall see, that in some series the flans were weighed more carefully than in others. I believe also that the evidence shows that the weights employed for weighing different series often differed from each other; this is suggested by the small but consistent differences in the apparent theoretical or standard weights of the various series of League drachms. If our frequency tables are to indicate how accurately different series were struck, and to exactly what weights, their intervals ought ideally to be such as would enable us to recognize the smallest differences which the ancient workman could himself detect.

How small was this? There is surely little difference between an ordinary modern balance employing separate weights (i.e. not a chain weight), and sitting in the open air (not enclosed in a glass case), and the best ancient balances. And there is no good reason to suppose that modern technicians are more careful than the best of their ancient counterparts. It seems reasonable, then, to be guided by what can be achieved by a good modern balance constructed without the refinements which were probably unknown to the ancient Greeks. My own scale is of such a kind, and with it I find that it is possible to weigh with certainty to .02 grammes and with some confidence to .01 gms., but quite impossible to be certain that one's reading is correct to .005 gms. That the Euboian mints could achieve, and sometimes did achieve, a similar degree of accuracy is suggested to me by the results of weighing carefully several thousand Euboian coins. Some of the Euboian series were struck, I believe, to within .01 grammes of the weight intended, though some are much less accurate, and the best of them does not, I think (but here the evidence is scanty), succeed in weighing to within .005 grammes of the theoretical weight. The reader who cares to do so may check the correctness of this opinion by studying the weights recorded in the catalogue; perhaps the best example of a really accurately weighed series is provided by the drachms with a satyr's head as symbol, where 23 specimens weigh about 3.70 and 34 weigh about 3.65—none is heavier. If we examine the weights more closely it appears that of the 168 satyr's head drachms the weights of which are known 8 weigh 3.70 and 8 weigh 3.69; only obviously incrustrated coins weigh more, and as far as I can tell, there are no examples of specimens in brilliant condition weighing less—in short the wear appears to be absolutely consistent with the theory that every coin when it came from the mint weighed 3.70, or rather, well over 3.69 and definitely less than 3.71. It would seem then that a case could be made out for constructing frequency tables with intervals of only .01 gms., and if very large numbers of coins were available, I believe that this would be worth doing. I emphasize this, for there is a strong tendency among numismatists to feel that ancient coins were not struck very accurately, and that exact weight is comparatively insignificant (a case is quoted in note 27 below). In point of fact it is impossible to generalize—in

Euboia, at least, some series were struck accurately, and some series were not; this was also true of Alexander's mints.¹ However, statistics are worse than useless unless they are based on an adequate—and this usually means a very large—number of examples. For Euboia we have no series which contains a large number of coins in mint condition; it is accordingly necessary to be satisfied with a larger interval, an interval which will allow at least five to ten coins to appear in each of the top lines of the table, for smaller numbers have obviously no statistical significance. In short it may be laid down as a principle that the smaller the number of coins the larger the interval in the frequency table must be if one is to base any conclusions upon the differences which it records. For the Euboian series in general it was clear that the numbers available did not justify intervals as small as a hundredth of a gramme; I have accordingly adopted the usual twentieths, and have drawn the tables up in grains as well as grammes, both because grains are easier to remember, and because in some cases the slightly larger interval (1 grain = .064 grammes) seemed to produce a more satisfactory table.

In arriving at figures for the standard or theoretical weights of the different series, I have used no mechanical rule, but have been influenced by the apparent accuracy with which a series seems to be struck. Where all of the heaviest coins of a series are practically identical in weight and "EF" or "FDC" in condition, I have assumed that the standard was identical with or just barely higher than the weight of the heaviest coins. But where there are a few exceptionally heavy coins in a series, as is the case with the lyre drachms, I have assumed that these were accidentally struck too heavy, and that the standard weight is slightly lower than that of the two or three heaviest coins.²

This method results in identical standard weights for the no symbol and grapes groups (59 grains or 3.82 grammes) and also for the kantharos and lyre groups (61 grains or 3.95 grammes). As these paired groups are chronologically contiguous, it is probable that one set of weights was employed for one pair and another one for the other. The slight but consistent difference in weight between the heaviest

¹ See p. 77 and note 10 below.

² See note 10 in the last chapter.

satyr's head drachms and the heaviest dolphin drachms suggests that different sets of weights were used in preparing the flans for these two groups. See the 'Comparison of Frequency Tables' and the 'Synopsis of the League Issues' at the end of the chapter.

THE DIDRACHMS OF AIGINETIC WEIGHT

Group 1 – 411/10 B.C.

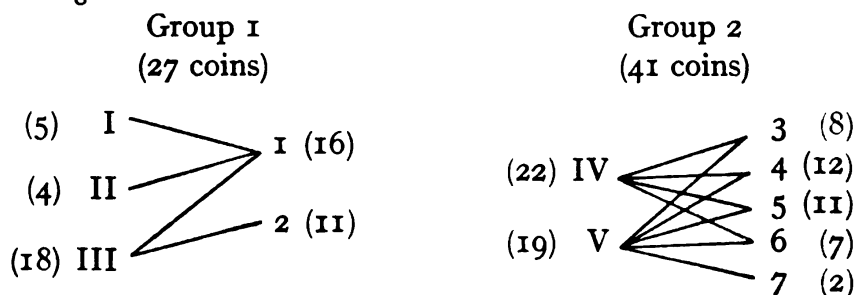
Obv. Cow lying l., head turned back to lick its shoulder, tail passes under the near haunch and tuft appears above back.

Rev. Female head (Euboia?) r., hair rolled with two (Rev. 1) or three (Rev. 2) loops along face, wearing crescent (Rev. 1) or round (Rev. 2) earring. EVB (Rev. 1) or EYB (Rev. 2) in front of face.

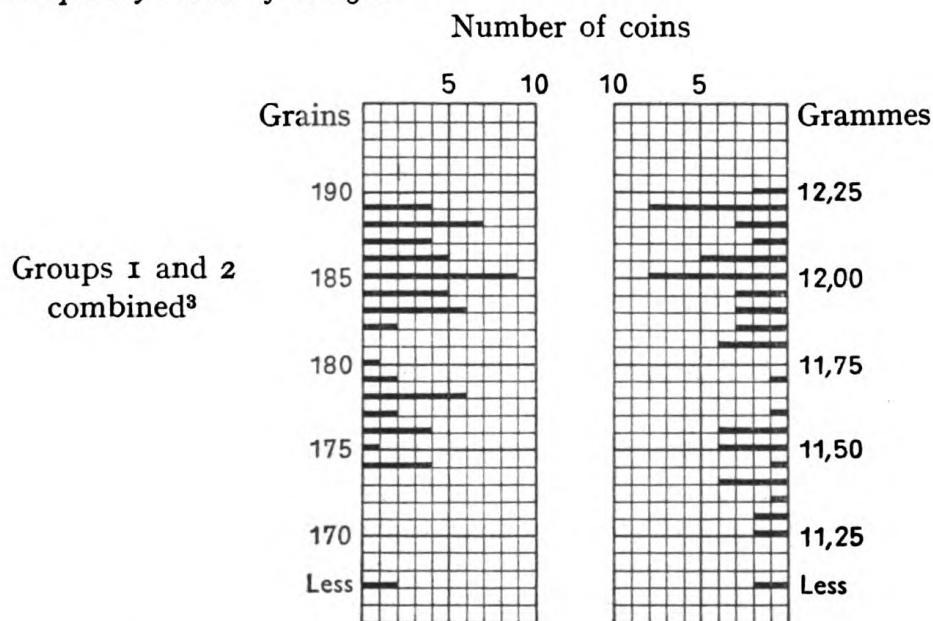
Group 2 – about 405 B.C.

Obv. Female head (Euboia?) r., hair rolled with three loops along face, wearing round (Obv. IV) or crescent (Obv. V) earring, and, in Obv. V only, a linear necklace.

Rev. Cow lying r., tail against side; above, vine branch carrying a large bunch of grapes and one (Rev. 3 and 5) or two (Rev. 4 and 7) leaves, or a circular tendril and one leaf (Rev. 6). EYB (Rev. 3, 5, and 6) or 8YB (Rev. 4 and 7) below cow.

Die Diagrams

Frequency Table of Weights



The first issue of the Euboian League, struck probably in 411 B.C.,⁴ was undoubtedly Group 1 described above. The style of the Aiginetic didrachms is obviously earlier than that of any of the other issues, and their Aiginetic weight finds a convincing explanation in the Peloponnesian auspices under which the revolt of Euboea and the foundation of the Euboian League took place.⁵ That Group 1 is a few years earlier than Group 2 is clear both from the fact that the coins belonging to it seem slightly more worn than those belonging to Group 2 in the 1951 hoard,⁶ and from the earlier technique of Group 1 where the head appears on the reverse.⁷

The die positions of both groups are completely irregular. The order of the dies in Group 1 is certain, for the slight injury con-

³ Groups 1 and 2 have been combined in the frequency table because it is clear that both groups were intended to be struck to the same weight; the two heaviest recorded specimens (both in brilliant condition and not at all incruusted or corroded) both weigh 188.7 (12.23) and come one from each group; Group 1 contains 15 coins weighing 185.0 (11.99) or over, Group 2 contains 13.

⁴ See page 5.

⁵ See page 3.

⁶ See page 50.

⁷ See note 3 in Chapter 1.

necting the stray lock of hair on the temple with the earring in the first reverse die grows progressively worse as the die is used with the three obverses, and a slight injury by the muzzle of the cow in Obv. III is absent when the die is used with Rev. 1, but shows on most of the coins struck from Rev. 2. Rev. 2 seems also later in the style of the hair, and employs the Y form of upsilon instead of the earlier V form. We thus have proof that only two dies were in use at once for the striking of the coins of this group, and the order in which the three obverses and the two reverses were employed is obvious.

In Group 2 it is apparent that all of the dies (except Rev. 7) must have been in use almost contemporaneously. As, however, Obv. IV shows an injury below the earring when used with Revs. 5 and 6 which does not appear when it is used with Revs. 3 and 4, it seems probable that four dies were employed to begin with—IV, V, 3 and 4; then when 3 and 4 broke, 5 and 6 were put into service; finally IV broke, and so only V was used with 7. The date of Group 2 is discussed on p. 7.

That the first issue, Group 1, was smaller than the second issue, Group 2, is suggested by the smaller number of preserved specimens, by the slightly smaller number of dies employed, and perhaps also by the fact that only one pair of dies was used at once—this seems to indicate a more leisurely, less hurried, production.

The weights of these coins make it probable, as may be seen from the frequency table, that the series was struck very accurately at between 188 and 189 grains (12.18 to 12.24 gms.). The coins in brilliant condition—and thanks to the 1951 hoard there are several of them—all fall between these two figures; those which weigh less all show signs of wear or cleaning or both, and none weighs more. Thus although I have been able to list only 69 specimens, the standard may be stated with confidence as 188 + grains (± 12.22 gms.); it may in future be possible to narrow these limits—I should not be surprised if all coins in mint condition which turn up in this series are found to fall between 188.6 (12.22) and 188.9 (12.24), but too few specimens are known as yet to justify dogmatism. We can at least say definitely that the didrachms were struck at within one half of one percent of their intended weight.

THE TETRADRACHMS

Group 1 – about 400 B.C.

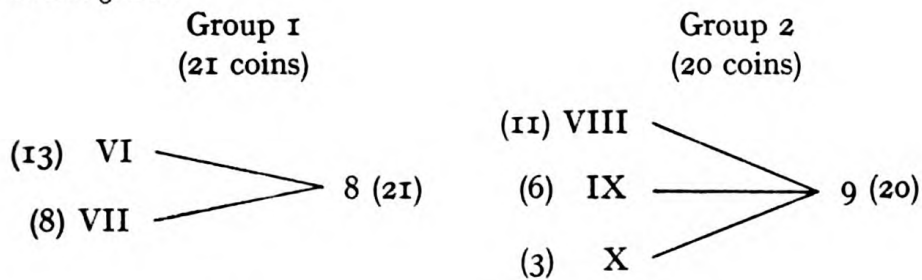
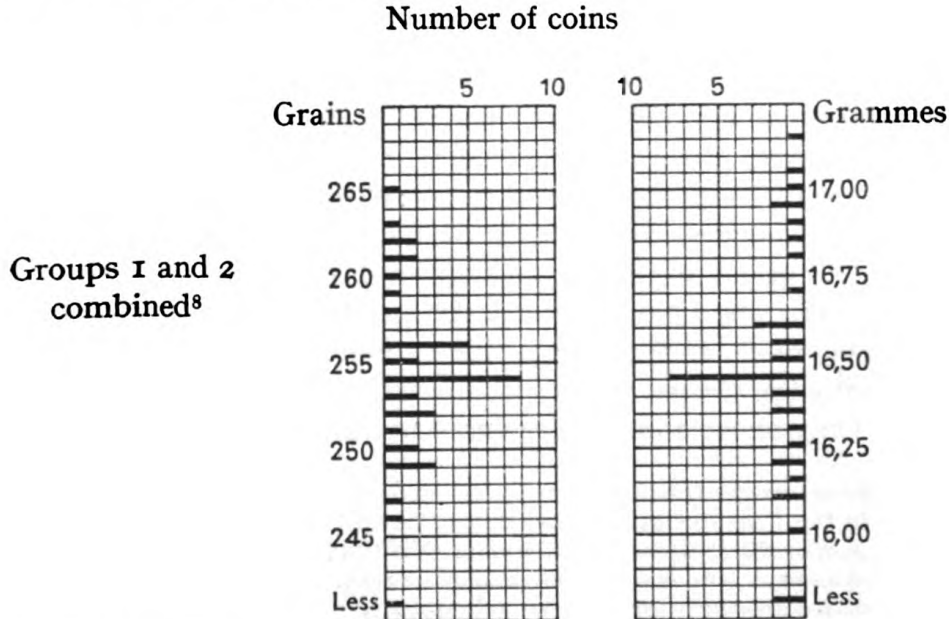
Obv. Female head (Euboia?) r., no earring or necklace, hair rolled.

Rev. Cow standing r. on exergue line, head turned three-quarters r.; above, EYB.

Group 2 – about 395 B.C.

Obv. Similar.

Rev. Similar except the letters: EY above, BOI r. of cow.

Die Diagrams*Frequency Table of Weights*

⁸ See below, page 76.

The dates of these tetradrachms are discussed above, on page 10. The earlier didrachms were apparently unaccompanied by fractions, but drachms were struck with each of the two tetradrachm issues, and there were also hemidrachms, and perhaps smaller denominations as well (see below).

In Group 1 the condition of the reverse die is apparently the same with both obverses—and the order in which these two obverses are listed is accordingly arbitrary. In Group 2 the top and middle *hastae* of the epsilon on the reverse appear to have been too short originally and to have been lengthened on the die after the British Museum and Copenhagen specimens had been struck from obverse I (the middle *hasta* being somewhat over-corrected). It is accordingly clear in this case which obverse was used first. And as there are obvious injuries to the reverse die in the brilliant Locker Lampson specimen, which do not appear on any of the others, the obverse of this specimen must be the latest; thus the order of all three obverses in Group 2 is clear. It is interesting to notice that the tetradrachms required five obverse but only two reverse dies. The explanation is undoubtedly the high relief of the obverses as opposed to the much more normal reverses; as nearly as I can measure the height of the relief it is, at its greatest, about four millimetres. The die positions of the tetradrachms, as of the didrachms, are irregular, but show a certain tendency to be ↓ or ↑, or to approximate those positions.

The frequency table for these coins is very unsatisfactory, for there are too few specimens, and too many of those few are badly worn. As it happens, the nine heaviest tetradrachms listed in the catalogue all belong to Group 2. All of the specimens of Group 1 are, however, worn, and I have hesitantly included all of the tetradrachms in the same table, as the wear of the various specimens seems consistent with the theory that both groups were struck to the same weight.⁹ Only two of the tetradrachms known to me show practically

⁹ One of these tetradrachms—the last coin listed under VI-8 in the catalogue—occurred in the Karystos hoard recently published by Professor D. M. Robinson: *A Hoard of Silver Coins from Carystus*, *NNM* 124 (New York 1952). It is there listed as no. 1, and is discussed on pages 12–15. Robinson recognizes that the coin shares dies with three of the undoubtedly “Attic” tetradrachms, but nevertheless produces the remarkable theory that it is an Aiginetic didrachm and “provides the connecting link between the staters (i.e. didrachms) and

no wear, and of them only one, the Locker Lampson specimen, can be described as being in practically mint condition. It weighs 264.5 grains (17.14 gms.); the other, Jameson 1177, weighs 263.4 (17.07). It thus seems reasonable to suppose that the standard, normal, or theoretical weight of the coins when they left the mint was very close indeed to 265.0 (17.17). This is probably exactly what the 'Attic standard' was supposed to be. We have too little accurate information based on careful weighing of large numbers of coins, but it may be recalled that of the 75 uncirculated tetradrachms of the Amphipolis mint in the Demanhur hoard, 61 weighed between 17.15 and 17.18, while only 6 weighed less and 8 more; Amphipolis was the largest and most accurate of Alexander's mints.¹⁰

Some of the flans are rather irregular in shape, and there are occasional striking similarities between the flan shapes of different coins from the same pair of dies—compare, for instance, the Newell

the tetradrachms, proving that the type was changed before the standard." This, if true, would be extraordinary. But the coin now, after "three separate efforts" at cleaning it electrolytically, weighs 13.85; this is at least 1.60 grammes heavier than the heaviest known Euboian Aiginetic didrachm, and it is clear from the photograph published by Robinson that the coin is not seriously incrustrated. The other coins in the hoard which are closest in date to this one (but even so fifty years later) are the six drachms without symbol (nos. 60–71: see below, page 88), which have an average weight of just under 3.30. This series was very accurately struck at 3.82 (see page 90), and so it is clear that the six drachms have, on the average, lost .52 gms. or about $\frac{1}{7}$ of their original weight—the lightest of them has lost .65, or almost $\frac{1}{6}$. If the tetradrachm originally weighed 17.17 (see above), it has lost almost $\frac{1}{6}$ of its original weight; if the original weight was about 16.80 (and the heaviest known specimen weighs 16.60), then it has lost exactly the same fraction of its weight as this lightest drachm. (It should be mentioned that Robinson says that the coin weighed exactly the same after the three attempts to clean it electrolytically as it did before. I have never known a coin not to lose weight in an electrolytic bath, and this coin presumably had the same type of incrustation as the others in the hoard all of which lost a great deal of weight—I can only suggest that something must have gone wrong with his records.)

¹⁰ See E. T. Newell, *Reattribution of Certain Tetradrachms of Alexander the Great* (New York 1912) p. 40, and compare the same author's *The Demanhur Hoard*, NNM 19 (1923) p. 67, where the identification of the mint as 'Pella' is changed to 'Amphipolis.' It is interesting to notice that some of Alexander's mints struck coins very irregular in weight—Ake was one of the least careful, and its tetradrachms vary from 16.75 to 17.27 gms. We are in great need of dependable and extensive metrological statistics based on large series from which many specimens in mint condition have survived.

and British Museum specimens of VII-8 (PLATE V, 15, 15). The explanation is probably that the flans were prepared by cutting slices off a bar of silver which had not been accurately rounded.¹¹ Some coins from the same pair of dies show similar shapes among the didrachms, too, and among some of the drachms, although the case instanced above is the clearest. I have little doubt that all of the Euboian League flans were produced in this manner, but the evidence falls short of formal proof.

¹¹ It is clear that this method was used to produce the tetrobol (?) flans which were found some years ago at Chalkis—see S. P. Noe, *Bib. of Gk. Coin Hoards*,² no. 231 (some of these flans are now in the Newell Collection at the American Numismatic Society), and the *Catalogue of the Jameson Collection III*, nos. 2067 and 2072 (which is now in my possession). They are obviously sections broken off a bar which had in each case been partly cut through by a number of chisel cuts around the circumference.

THE DRACHMS OF ATTIC WEIGHT

Group 1 – about 400 B.C.

Obv. Female head (Euboia?) r., no earring or necklace, hair rolled.

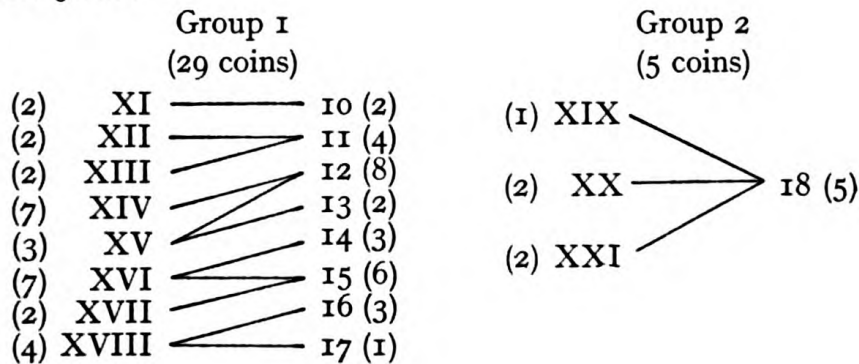
Rev. Cow's head and neck turned three-quarters r.; l. ear not shown on Revs. 10, 11, 12 and 14; above, E-Y (Rev. 10), or EY (Revs. 11 and 12), or E-YB (Rev. 14), or EY-B (Revs. 13, 15, 16 and 17).

Group 2 – about 395 B.C.

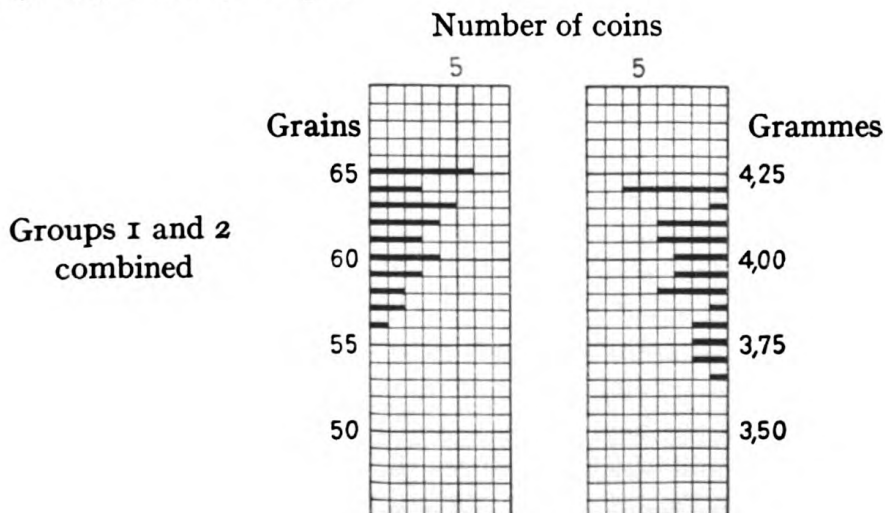
Obv. Similar.

Rev. Similar; EYB between horns, Ol r.

Die Diagrams



Frequency Table of Weights



These drachms are of full Euboio-Attic weight, like the tetradrachms, and like the tetradrachms they are divided into two groups, the second of which has the letters EYB-OI running across the top and down the right side of the reverse. In both groups the nymph's ear has a firm round lobe, made with the drill, which is surely not intended for an earring—the ear is treated similarly in both groups of the tetradrachms. The style is much earlier than that of the more numerous drachms of lighter weight, on all of which the nymph wears earrings. These 'Attic' drachms are thus obviously to be connected in date with the tetradrachms—as, indeed, they always have been. Furthermore it seems probable that Group 1 of the drachms accompanied Group 1 of the tetradrachms, and that the second groups similarly go together: as Babelon remarked,¹⁸ the EYB-OI drachms seem later in style than the others (this is at least true of the reverse die).

It may seem that there is something rather arbitrary about the way the groups have been divided here, with only one reverse die assigned to the second of them. In Group 1, however, even where no actual die links are known—it is to be hoped that future finds will increase the number—other considerations establish a close connection. Thus in the first six reverses the horns and eyes are too large for the rest of the head, the nose is too narrow, and the muzzle too small. The incompetent engraver of Rev. 16 at least corrected this last fault, and in Rev. 17 we have a quite successful representation of the animal. Revs. 15, 16, and 17 are connected by an identical arrangement of the inscription—EY between the horns and B to the right of the muzzle. In Reverse 10 the inscription is clumsily divided, and the cow's head is unconvincing. Revs. 10, 11, and 12 are similar in character and show a steady improvement in the representation of the animal, although none of them shows the left ear: it was omitted either through inadvertence or on the theory that the head is so much in profile that it could not be seen. These three are the only reverses in which the inscription contains only two letters. If we are right in putting them first, and together, they carry with them the five obverses with which they are used, and Rev. 13 as well, which is used with Obv. XV and which introduces the EY-B form of the inscription,

¹⁸ See E. Babelon, *Traité*, III. 3 p. 196 *ad* no. 176.

and the first rather tentative indication of a left ear. These two innovations are continued in Revs. 15, 16, and 17. Curiously enough Rev. 14 looks like a reversion to an earlier type; its place in the series is, however, guaranteed by its use, along with Rev. 15, with Obv. XVI. This is a good example of the dangers of stylistic argument—if these two reverses were not die-linked, and were judged solely by their style, they would undoubtedly be put many years apart. There is thus no point at which it seems possible to divide the first eight reverses and their accompanying obverses. In Group 2 the obverses are not notably different from several of those in Group 1; the reverse, however, is different from the others, both in the length and arrangement of the inscription and in the character of the cow's head which seems to look more squarely out from the coin. The fact that the tetradrachms are divided into two groups makes it natural to look for a similar division among the accompanying drachms, and to associate one group of drachms with each group of tetradrachms, but it is possible—although improbable—that all of the drachms go with one of the two groups of tetradrachms, and none of them with the other. The question can only be settled by the discovery of more specimens and more hoards, and by the establishing of further die links.

The die positions are irregular but, like those of the tetradrachms, show a tendency to be ↓ or ↑ or to approximate those positions.

It is interesting to notice that an ancient forgery of one of these coins occurred in hoard 4 (see page 50).¹³ The coin was probably

¹³ See PLATE VI, D. The coin is no. 45 in Section A which was published recently by Professor D. M. Robinson (see note 9 above); Robinson discusses it on page 42. He considers it genuine: "There is no possibility that this is a forgery: it is too unlike the others to have passed current as an ancient forgery; it is not a modern one for it was covered with the same heavy purplish incrustation as the other coins . . ." But a queer-looking forgery would have no more trouble in passing than an equally queer-looking genuine coin unless a large number of them was issued. This coin was used, for it is worn, and there were probably not many like it, for no other has survived. Robinson also considers that this coin was struck on the lighter "Macedonian" standard. It is certainly light now, weighing 53.6 grains (3.47 gms.), and may have been so originally, but many of the weights of these drastically cleaned coins are surprisingly low, indeed most of them are lower than this—in note 9 we have discussed the tetradrachm which now weighs only 13.85); whatever the original weight of this drachm it was clearly copied from a specimen of the early series of "Attic" weight.

copied from a specimen struck by dies XVI-15. The reverse has been turned the wrong way, perhaps as a result of copying a coin directly onto a die, forgetting that when the die was used the type would face in the opposite direction.¹⁴ The letters are also retrograde, and only EY appears—the B is omitted, but in several of the known specimens struck from Rev. 15 the B is so faint as to be hardly visible, and the forger apparently failed to notice it on the coin he was using as a model (the model was not one of the earlier dies with EY, for none of those shows the left ear). The work on the obverse is also poor and careless—the eyelids and lips are too thick, and the hair is not copied accurately. That the coin is a copy of one of the Attic weight drachms, and not of one of the later series of lighter weight, is shown by the rendering of the nymph's hair, by the lack of earring, and by the fact that the cow's head is not filleted. The silver is rather different from that used for the genuine coins; it is perhaps significant that the gold line showed prominently in its spectrum, and very little in those of the other five early drachms tested.¹⁵ As the Greeks could not remove gold from silver, this might mean that the metal came from a different source from that employed for the genuine coins.

¹⁴ The only other instance of the cow's head turned left is the hemidrachm in Copenhagen (SNG 478); see PLATE XIII, 136.

¹⁵ See "Impurities in Euboean Monetary Silver," *ANS Museum Notes VI* (1954) pp. 35–67. The coin in question appears as no. 91—it certainly belongs to Professor Robinson's hoard, but was in my possession at the time when Professor Allin and I undertook our spectrographic investigation. This was directed chiefly to the determination of the copper content, and further work is needed if firm conclusions are to be reached about the gold content of any of these coins.

Early Fractions

This issue of drachms was also accompanied by fractions, for there are hemidrachms, a diobol, and obols of Attic weight with the inscription EY-B arranged as on the early drachms of Revs. 13, 15, 16, and 17. The hair of Obv. XXII of the hemidrachms is reminiscent of the drachm obverses XI, XII, XIII, XV, XVI, and XVII, while the hemidrachm Obv. XXIV is similar to the drachm Obv. XVIII. The nymphs on the hemidrachm obverses, like those on the early drachms and staters, wear neither earrings nor necklace.

Of the hemidrachms I have been able to list only five specimens, but small coins appear less frequently than larger ones in dealers' catalogues and in museum collections, so that there may well be many others in private possession. The five are struck from four obverse and three reverse dies (see below and PLATE XII); the hemidrachms from XXII-19 are like the early drachms from XVI-15, and those from XXIV-20 are like the early drachms from XVIII-16. The heaviest specimen weighs 33.5 grs. (2.17 gms.). The die positions are irregular.

Two of the obols recorded in the catalogue probably accompanied the issue of the Attic weight drachms and hemidrachms: no. 13 in Imhoof-Blumer's collection of casts, now at Winterthur, and no. 480 in the Copenhagen *Sylloge Numorum Graecorum*.

The description of these fractions is as follows:

HEMIDRACHMS:

Obv. Female head (Euboia ?) r., hair rolled, no earring or necklace.

Rev. Cow's head and neck turned three-quarters r., no fillets, left ear shown. EY-B

DIOBOLS:¹⁶

Obv. Female head (Euboia ?) r., hair rolled, no earring or necklace.

Rev. Cow's head and neck turned three-quarters r., no fillets, left ear shown. EY-B

¹⁶ The only specimen that has come to my attention is Babelon, *Traité*, II. 3, 178, pl. 198,7. Babelon calls the coin a trihemiobol of Euboic weight, but as it weighs 16.9 grs. (1.10 gms.) and is both worn and broken, it seems more reasonable to regard it as a diobol.

OBOLS:

Obv. Female head (Euboia?) r., hair rolled, no earring or necklace.

Rev. Cow's head and neck turned three-quarters r., no fillets, left ear shown. EY-B (Winterthur cast—see PLATE 12) or EY (Copenhagen SNG 480—see PLATE 12).

The dies of the five hemidrachms are related as follows:

35. (2)	XXII	—————	19 (3)
36. (1)	XXIII	—————	
37. (1)	XXIV	—————	20 (1)
38. (1)	XXV	—————	21 (1)

The two obols are struck from four different dies (XXVI and XXVII, 22 and 23).

NOTE

Since this manuscript was completed I have come upon a unique and interesting drachm of Attic weight (Wallace EL 512). It is struck from *Obv.* XV and from a new reverse with EYB between the horns, but without OI to the right, which we may call 13a. This reverse seems most similar in style and arrangement to *Rev.* 18 of Group 2, but the obverse belongs to Group 1. The coin should accordingly, perhaps, be considered to connect the two groups, and to make it doubtful that they were separately issued, as suggested above, with the two groups of tetradrachms. The weight is 62.2 grs. (4.03 gms.), and the die position is \nearrow ; see PLATE VI, 25.

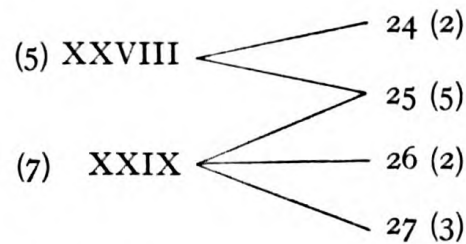
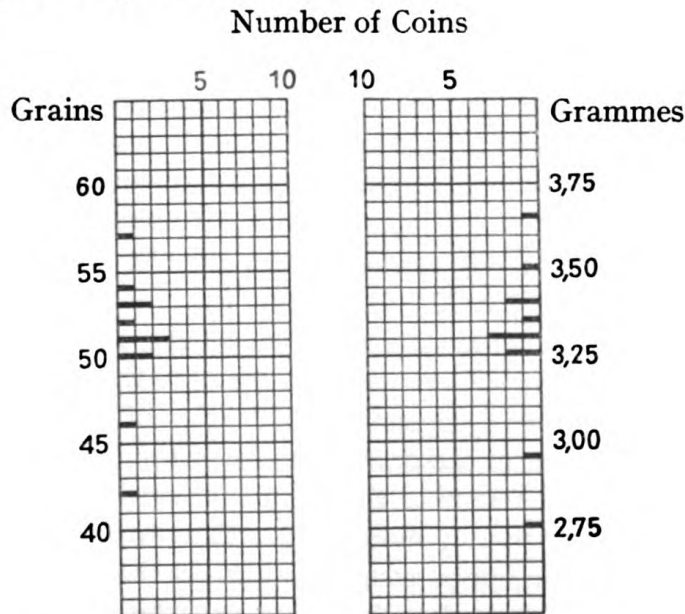
It is unfortunate that so few specimens of this group of Attic weight drachms are available for study, and that of these few only one comes from a recorded hoard. No other Euboian League issue has so many dies for so few known specimens, and it is clear that we do not yet have enough coins to justify definite conclusions about the character and affinity of the group.

THE DRACHMS IN HIGH RELIEF

Date – about 357 B.C.?

Obv. Female head (Euboia?) l. (Obv. XXVIII) or r. (Obv. XXIX); single drop earring, hair rolled.

Rev. Cow's head and neck turned three-quarters r., filleted (fillet on l. follows cow's cheek instead of hanging straight); between horns, EY.

Die Diagram*Frequency Table of Weights*

This is a small group of rare coins—I have been able to list only twelve of them. Fortunately three of the twelve occurred in Section B of Hoard 4 (see page 51) where they seem somewhat more worn than

the drachms without symbol and than those with the grapes. One also appeared in the hoard group listed as no. 10 above on page 55, and its wear there also suggests that it should be similar in date to the drachms without symbol and those with the grapes, but as these three issues are each represented by single coins in a group which does not certainly come from a hoard, little reliance can be placed on their condition as an indication of date. The relief is high, higher than that of the drachms of full Attic weight, and the cutting of the dies is careful, but to my eye somewhat uncertain, as if the engraver were feeling his way, inventing a new type rather than copying an old one. Perhaps the best indications of this are the fact that the left-hand (or dexter) fillet slants along the cow's cheek in all of the reverse dies instead of hanging straight down as it should (and does in all the other issues), and the excessive shortness of the right-hand fillet in Rev. 25: the engraver here seems to have left himself too little room to the right of the cow's muzzle, and had to shorten the fillet if he was to show its tassel. The nymph's head faces left on the earlier obverse and right on the later one. The chin is slightly raised, giving a tilt to the head which produces an impression of vagueness and softness and contrasts strongly with the severely straight-forward gaze of the nymphs on the didrachms, tetradrachms and drachms of Attic weight. The earring on both obverses is a single conical drop (all the other earrings represented on the League drachms have triple drops), and the head which faces to the right wears a necklace—this is the only necklace among all the obverse dies of the Euboian League drachms except for Obv. XXXII of the drachms without symbol.¹⁷ The coins are of the lighter 'Macedonian' weight, and—if the beautiful British Museum specimen, which shows only the slightest signs of wear, may be taken as a dependable indication of the standard—are distinctly the lightest of the drachm issues of the League. A spectroscopic examination of four of these coins showed that three of the four contained considerably more copper than appears in any of the other League drachm issues except the early series of Attic weight.¹⁸ Altogether it seems clear that the group must be dated between the drachms of Attic weight and the drachms without symbol, between,

¹⁷ See PLATE VIII, no. 52.

¹⁸ See page 53 of the paper cited in note 15 above.

that is to say, 395 and 340 B.C. Their weight suggests that these coins should come later than the period of close political connection between Athens and Euboia prior to Leuktra in 371, and probably also that they should be later than the Battle of Mantinea in 362. They were probably issued some time between 360 and 340, and earlier rather than later within that twenty years, for differences in the composition of the metal, in the fabric, and in the style separate them from the drachms without symbol of about 340. Perhaps the most probable date is 357 when the Euboians, with Athenian help, drove the Boiotians out of the island (see p. 11)—the shortness of the campaign may help to explain the smallness of the issue; but the suggestion is little more than a guess.

The die positions are more regular than those of the drachms of Attic weight, but less regular than those of any of the other groups: in three cases the axis is vertical, in five it is tipped varying amounts to the left, in two it is tipped to the right, and in one case it is completely irregular. These are among the earliest coins in Greece proper to show an incipient vertical adjustment of the die positions.¹⁹

A frequency table of weights is given, chiefly for the sake of uniformity with the other series, but with so few coins it has, of course, no real significance; the best indication of the standard to which the group was struck is the weight of the British Museum specimen (*BM Cat. of Central Greece*, pl. xvii, 5) which is in "FDC/EF" condition.

¹⁹ See E. T. Newell, *The Coinages of Demetrius Poliorcetes* (London 1927) pages 140–142, where this question receives some preliminary discussion which uncertainty about exact dates and inadequacy of material render necessarily tentative. It is unfortunate that the date of the particular League issue we are discussing is so uncertain, but the next issue, the drachms without symbol, which were struck either in or very close to 340 B.C., are definitely adjusted. Thus the vertical adjustment of dies was adopted in Euboia about the middle of the fourth century. It was Newell's impression that vertical adjustment does not appear elsewhere in Greece proper until the third century.

THE DRACHMS WITHOUT SYMBOL

Date – about 340 B.C.

Obv. Female head (Euboia ?) l., wearing triple drop earring (and, on
Obv. XXXII only, a necklace), hair rolled.

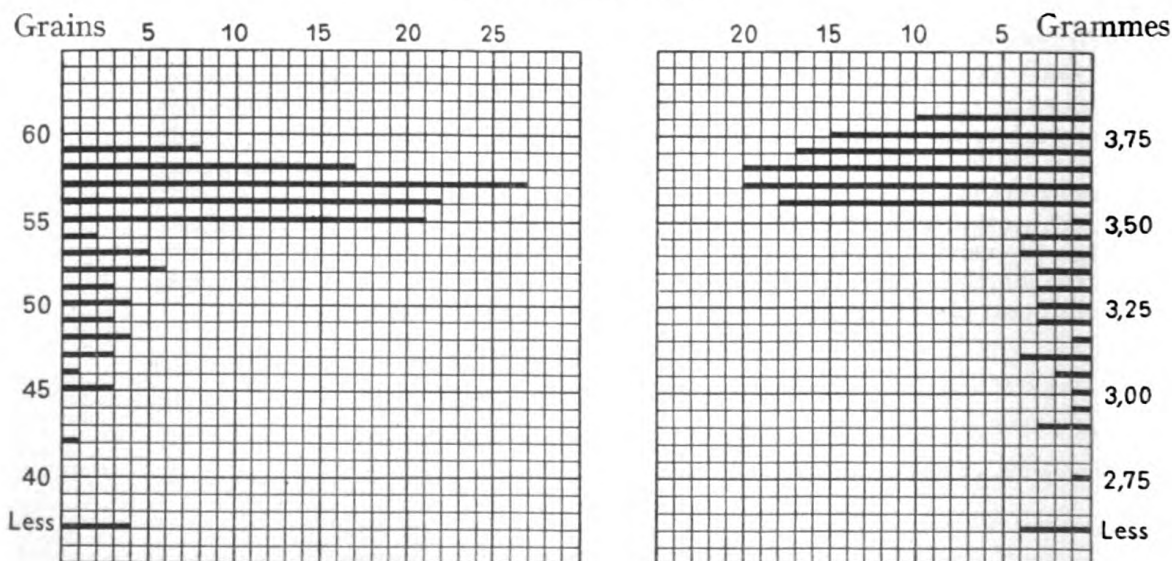
Rev. Cow's head and neck turned three-quarters r., filleted; between
horns, EY.

Die Diagram

(1)	XXX	—	28	(8)
		—	29	(8)
(28)	XXXI	—	30	(2)
		—	31	(5)
		—	32	(7)
(25)	XXXII	—	33	(9)
		—	34	(9)
(1)	XXXIII	—	35	(19)
(1)	XXXIV	—	36	(23)
(85)	XXXV	—	37	(10)
		—	38	(17)
		—	39	(25)

Frequency Table of Weights

Number of coins



This group and the next should be attributed, as we have seen (page 20), to the years between the refoundation of the League in 340 and the Battle of Chaironeia in 338. It was perhaps the largest of all the issues of the League, for it required twelve reverse dies as against seven for the kantharos drachms and six for the lyre drachms. That fewer specimens have survived is probably due to the fact that the two largest hoards—nos. 1 and 4 in our list—which together contained about half of the drachms of the League which survive to-day, were both buried late in the third century, when this issue had already circulated for a hundred years.

The order in which the dies of the group are listed is based upon two considerations. First, the injury by the cow's cheek in Rev. 32 seems worse with Obv. XXXII than with Obv. XXXI. Secondly, the slight injuries by the letters in Rev. 35 seem slightly worse with Obv. XXXV than with the others. But the differences between the injuries are so slight, and so few coins show them clearly, that one can have little confidence in the result of the comparison; as further specimens become known, it may be necessary to invert the diagram. All of the dies are connected, XXXIII and XXXIV in a rather surprising manner. It is remarkable that our knowledge of three of the six obverse dies should depend, at present, on a single specimen of each.

The die positions are usually adjusted vertically, and the line is usually taken through the front of the neck or between that and what we should consider the vertical position—all of the heads are tipped slightly forward, that is, to the left. The only exceptions to this rule are the coins of XXXV-39 which are all tipped even farther in this direction. Descriptions of die positions commonly ignore the fact that the line through a die representing a head was sometimes taken, not through the top of the head and the center of the neck (as would seem natural to us), but through either the front of the neck and the crown, or through the nape of the neck and the forehead. This was doubtless because the sharp angles, front and back, where the neck is cut off, provide more convenient and accurate points of reference than the center of the neck. Such positions should not be considered irregular, and I have accordingly designated them as $\uparrow f$ (when the line is taken through the front of the neck) and $\uparrow n$ (when

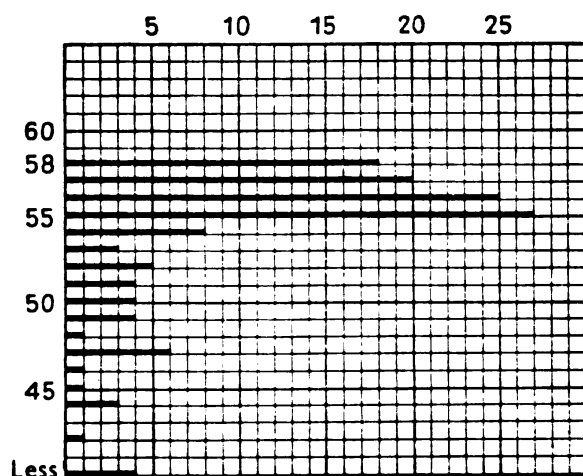
it is taken through the nape). $\uparrow c$ indicates that the axis is vertical in our sense—through the center of the neck. As “ \uparrow ” is often used to indicate positions which only approximate $\uparrow c$,²⁰ I have distinguished coins described in catalogues, etc., as “ \uparrow ” from those which I know from personal observation to be $\uparrow c$. The dies seem only occasionally to have been hinged or otherwise mechanically connected, for only with XXXV-37 and XXXV-39 are all the known specimens from a pair of dies identical in die position. The positions of the whole group may be summarized as follows:

$\uparrow c$	– 15
“ \uparrow ”	– 15
$\uparrow f$	– 37
$\uparrow c-f$	– 39
\nearrow	– 19 (all XXXV-39)

A frequency table such as that given above, with intervals as large as 1 grain and .05 grammes does not indicate how accurately this group was struck: the three heaviest of the coins weigh 58.8 (3.81), and all are “EF to FDC;” the next four heaviest weigh 58.65 (3.80), and all are “EF.” There are no coins of the group known to me which should be described as “EF” which weigh less than 58.0 (3.76) except perhaps de Nanteuil 905 (Feuardent sale of May 26, 1914, no. 226). This coin appears from the photograph to be “EF” but weighs only 56.8 (3.68); perhaps it has been cleaned electrolytically.

Since all of the heaviest coins happen to fall between 58.0 and 58.8, the frequency table would give a much more exact impression of the situation if the line marked “58,” instead of including all coins with weights between 57.5 and 58.4, were to include all between 58.0 and 58.9, and so on. The table would then appear as follows:

²⁰ Thus all of the 29 die positions of the Euboian League drachms recorded in D. M. Robinson's recent paper (see note 9 above) are listed as “ \uparrow ”; only a small minority of them can actually be $\uparrow c$, but all of them are properly regarded as adjusted vertically—which must be what is meant by the arrows.

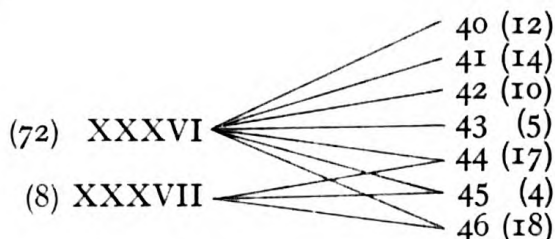
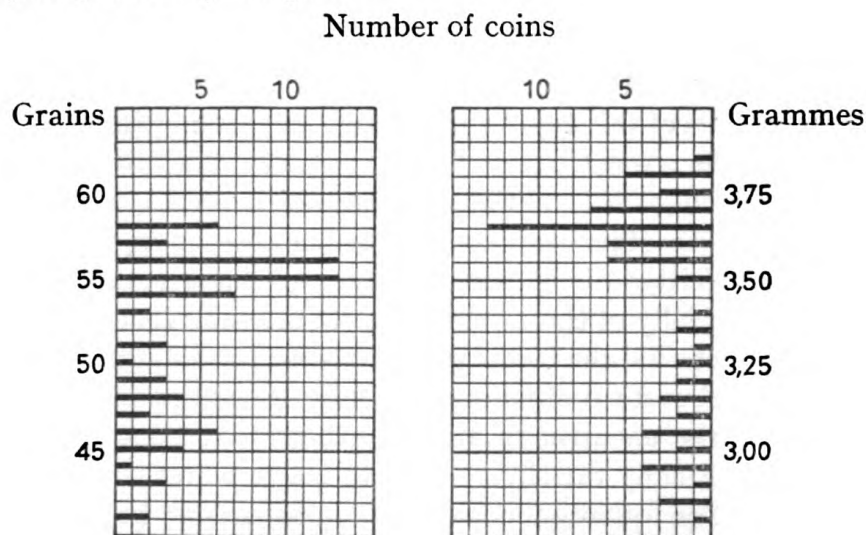


One tends to consider chiefly, or only, the top line of the graph; but if a series is accurately struck and the intervals of the table are as large as the customary .05 (and even more so when they are 1 grain—.064 grammes), it makes a great deal of difference to the impression given by the table whether the theoretical weight is near the top or near the bottom of the interval within which it falls.

There is a coin of this type in the Newell Collection (PLATE VIII, E) which I consider a forgery. It weighs 53.4 (3.46), which is rather light, as the coin is in good condition. Its die position is $\uparrow n$, which is unparalleled—in no other specimen is the die position to the right of the vertical. Neither die is used for any other known specimen, and the style, especially of the reverse, is most unusual; indeed the large dots of the fillets and the fact that the left-hand line slants away from the cow's cheek instead of falling vertically or slanting in towards it, suggest that the engraver may not have understood what he was representing. Finally the silver seems to me to be rather peculiar in appearance. The question could, of course, easily be settled by spectroscopic examination.

THE DRACHMS WITH A BUNCH OF GRAPES AS SYMBOL

Date – 340–338 B.C.

Obv. Female head (Euboia?) l., triple drop earring, hair rolled, iris and pupil indicated.*Rev.* Cow's head and neck turned three-quarters r., filleted; in r. field, a bunch of grapes; between horns, EY.*Die Diagram**Frequency Table of Weights*

Nothing is known of the significance of the symbols which distinguish the different issues of League drachms. They may, or may not, have been magistrates' badges. The fact that only one of the five groups of hemidrachms has a symbol—a bunch of grapes, as it happens (see page 109)—perhaps suggests that the symbols are *not* magistrates' badges, for these 'grapes' hemidrachms appear to be

among the earliest, and the symbols, once adopted to distinguish magistrates, would probably have continued to be used. But the analogy between hemidrachms and drachms need not hold. It is perhaps more significant that the two earliest groups of drachms have no symbols while all of the later ones do have them; this suggests that, magistrates' badges or not, the symbols were adopted to distinguish the different issues rather than as pure decoration. But it is hardly worth while to guess at the considerations which led to the adoption of particular symbols.²¹

This group is probably closely similar in date to the drachms without symbol which have just been described.

The order adopted here for the dies is purely arbitrary, for they show no injuries the development of which can be traced. The issue was clearly small, and the coins were probably all struck within a short period of time. In the discussion of the drachms without symbol above it was noticed that three of the six obverses are known from single specimens only. It is also rather surprising in the present group that of the 80 coins from two obverses 72 should have been struck from one and only 8 from the other. Disparity of this kind in the use of the obverse dies—and to some extent in that of the reverses, too—may be seen in almost all of the drachm groups. Indeed the drachms with the dolphin symbol are the only exception. The explanation is obscure.

The die positions are as follows:

↑c	- 11
“↑”	- 5
↑f	- 16
↑c-f	- 34

Once again there are no examples of the tilting of one die to the right, rather than to the left, of the vertical; and again specimens from the same pair of dies vary slightly, showing that the dies were not hinged or otherwise mechanically connected. Nevertheless coins from the same pair of dies tend to have the same die position: of the 10 coins from XXXVI-40 about which information is available, 9 are ↑f.

²¹ Professor D. M. Robinson discusses the individual symbols at some length in the paper referred to in note 9 above, but I find his explanations fanciful.

It is hard to tell with so few coins, but in comparing the apparent wear with the weights one gets the impression that this group was rather less accurately struck than the last one. The heaviest coins weigh: 59.4 (EF), 59.0 (EF), 58.8 (VF), 58.6 (EF or VF), 58.6 (VF/EF), 58.5 (EF), 58.2 (FDC/EF), 57.9 (EF), 57.9 (VF).





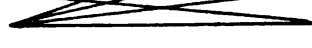
THE DRACHMS WITH A KANTHAROS AS SYMBOL

Date – about 323–320 B.C.

Obv. Female head (Euboia?) l., triple drop earring, hair rolled, pupil faintly indicated in *Obv.* XXXVIII only.

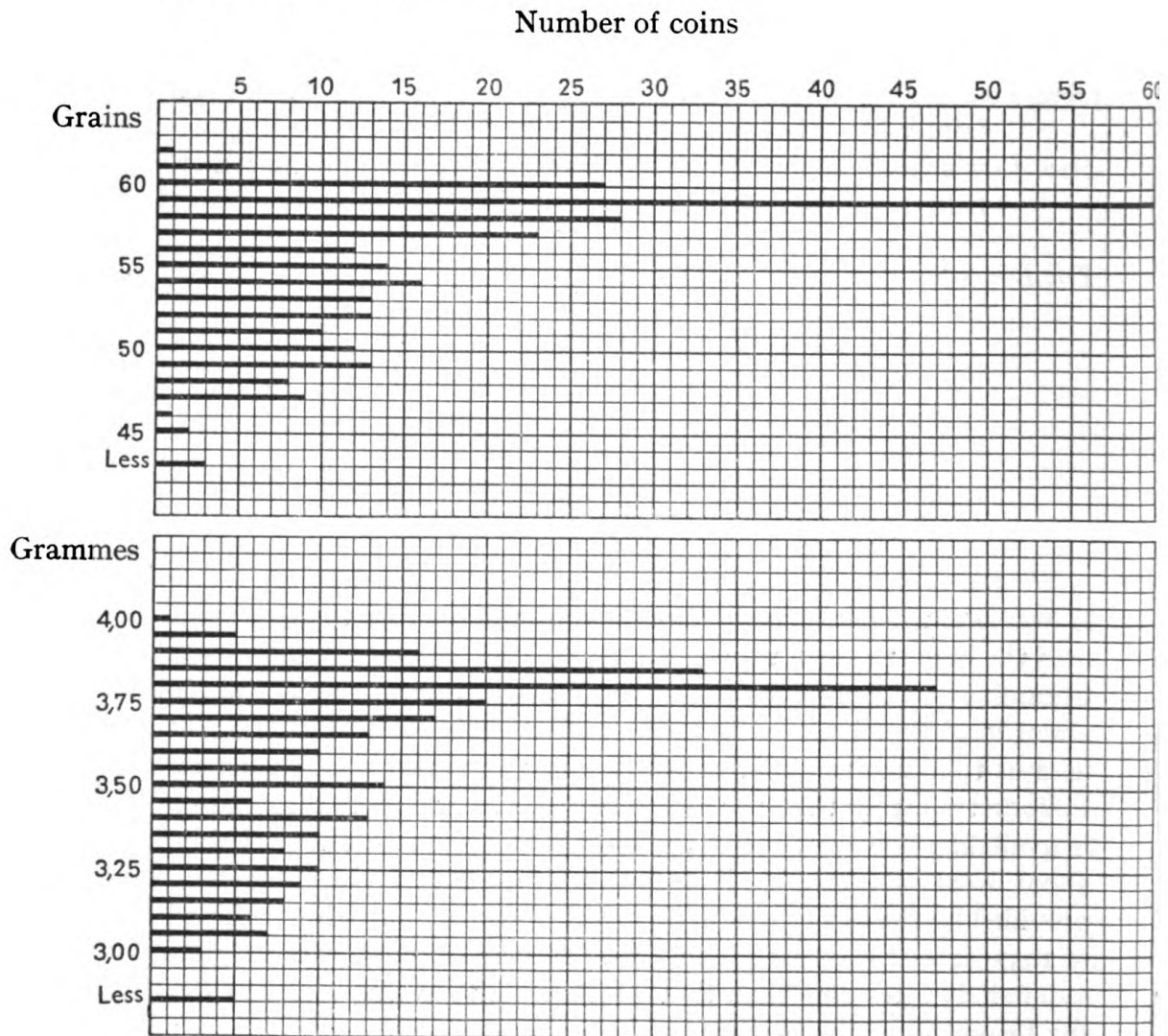
Rev. Cow's head and neck turned three-quarters r., filleted; in r. field, a kantharos; between horns, EY.

Die Diagram

(118) XXXVIII		47 (65)
		48 (47)
(20) XXXIX		49 (6)
(16) XL		50 (63)
(78) XLI		51 (65)
(67) XLII		52 (33)
		53 (20)

For the probable date of this group see pages 25 and 65. Dr. Roger Edwards of the Pennsylvania Museum informs me that the kantharos is of the high stemmed type which, at Athens, he would assign to the beginning of the third century. If we knew rather more than we do about local Eretrian, and Euboian, pottery, this consideration might lead us to assign the kantharos drachms to the period of Demetrios Poliorketes rather than to the Lamian War. Until more information is available, however, about the local pottery—or better, probably, about local metal-work—it seems safer to follow the indications provided by the loss of weight among these coins in the Eretria hoard of 1937; it is at least satisfactory that the type of kantharos suggests a definitely later date than that which has hitherto been assigned to the League drachms as a group.

It is a curious fact that well over a third of the coins are struck from one obverse and three accompanying reverse dies which are not muled in with the rest; it is extraordinary, too, that so few coins should have been struck by the third of these reverses. Perhaps there were two periods in the striking of these kantharos drachms; when the desired number of coins had been produced, the four dies which had been employed were destroyed, the third reverse soon after it had been put into service. Then a sudden need arose for many more

Frequency Table of Weights

coins, so that four new obverse and four new reverse dies were prepared and all used simultaneously. Some such explanation, at least, seems to be required by the two groups into which their connections divide these dies. There is no other reason for the order in which the dies are listed in the die diagram, for such small injuries as do occur do not enable one to determine the relative order of XXXIX, XL,

XLI, and XLII, or of 50, 51, 52, and 53²²—naturally enough, for these were clearly all in use at the same time. And there is no injury to XXXVIII by which the order of 47, 48, and 49 might be determined. More coins are known from XXXVIII—118 specimens—than from any other Euboian League die (although Rev. 57 of the lyre drachms, with 112 specimens, runs it a close second). And more are known from XXXVIII-47—65 specimens—than from any other pair of League dies; it is interesting that only 5 coins from this pair show the position ↑f which is otherwise so common in the issue (12 are ↑c, while the great majority—37 coins—lie between these positions, and are described here as ↑c-f). We may find here a possible confirmation of the sequence suggested above for the dies: as time went on more and more coins were struck in the less obvious but, for the workman, more convenient position, ↑f.

The die positions of the whole issue are as follows:

↑c	-	44
“↑”	-	12
↑c-f	-	114
↑f	-	96
↖	-	3

Once again it is to be noticed that, as with the previous groups of lighter weight, there is no known specimen which tilts to the right—i.e., towards the position which we designate as ↑n.

The frequency table shows that this group was struck to a distinctly heavier standard than that of the no symbol and grapes drachms. The heaviest drachms without symbol all weigh, as we have seen, just under 59 grains (3.82 gms.), and only a single specimen of the grapes issue is recorded to weigh more than this: 59.4 grs. or 3.85 gms. (I have not been able to check the weight). The no symbol and grapes groups together, as listed in the catalogue, contain 236 coins, a figure not too dissimilar to the 300 of the kantharos group. In the kantharos group, however, 14 coins weigh from 60.0 to 60.9 grains (3.89 to 3.94 gms.), one (Wallace EL 73), which is distinctly

²² But the small injury at the back of the neck on Obverse XLI seems more developed when the die is used with Reverse 53 than when it is used with 50; this would seem to justify the assumption that 53 was in use after 50 had broken.

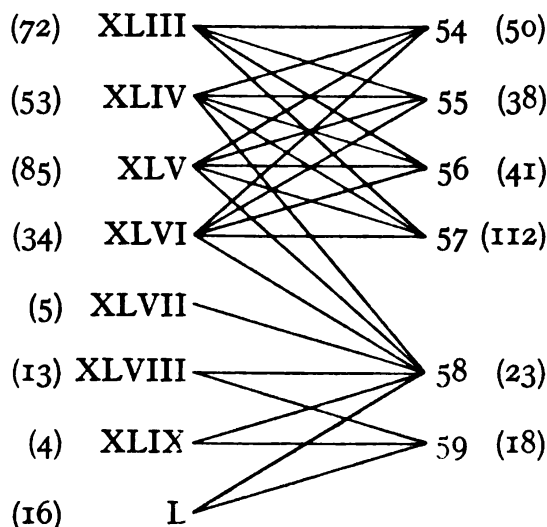
worn and would be described only as "VF," weighs 61.9 (4.01), and the least worn specimen known to me (Wallace EL 456—"EF/FDC") weighs only 60.2 (3.90). In short in the kantharos group the standard is higher, and the coins are less accurately struck.

THE DRACHMS WITH A LYRE AS SYMBOL

Date – about 302 B.C.

Obv. Female head (Euboia ?) r., triple drop earring, hair rolled, pupil not indicated.

Rev. Cow's head and neck turned three-quarters r., filleted; in r. field, a lyre; between horns, EY.

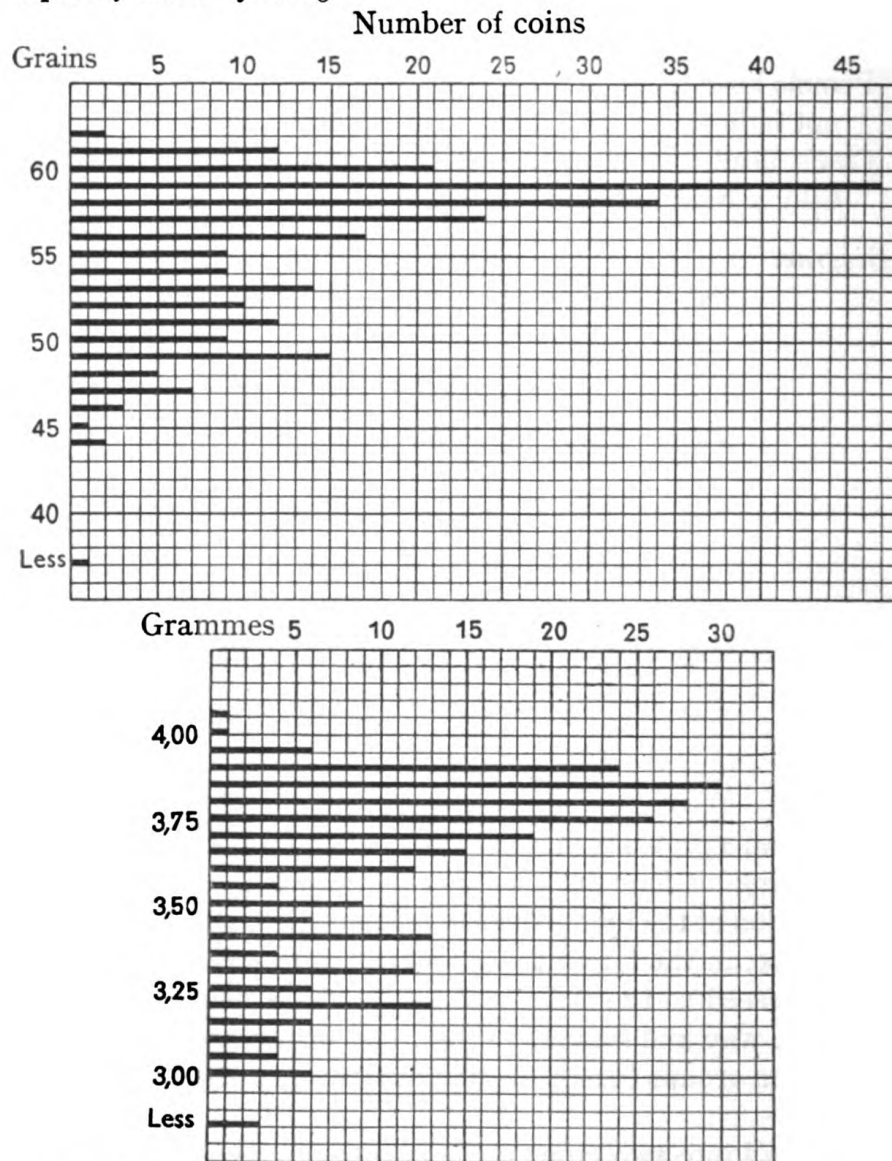
Die Diagram

This issue was probably struck in 302, when Demetrios Poliorketes was assembling his forces at Chalkis—see page 26.

The direction of the nymph's head is interesting. On the first issues of the League, in the late fifth and early fourth centuries, the head had always faced to the right, and in the "high relief" group some dies face one way and some the other. But with these exceptions all of the drachm groups except the lyre drachms have heads which face to the left.

The dies fall into two groups; the first four obverses and the first four reverses are all used more or less evenly each with the other, and the great majority of the coins is struck from them. Solitary specimens of Obverses XLIV, XLV, and XLVI used with Reverse 58 make the connection between the two groups; otherwise Reverses 58 and 59 are used only with Obverses XLVII, XLVIII, XLIX, and L—it is surprising both that there should be four obverses for two

7*

Frequency Table of Weights

reverses in this group and that so few specimens should be recorded from so many dies. Unfortunately the condition of Rev. 58 does not enable one to tell which group is the earlier, so that it is possible that the die diagram should be inverted. In any case XLVII to L are distinctly different in style from XLIII to XLVI; the hair above the roll is brushed along the head in XLVII to L, but straight down from

the crown in XLIII to XLVI, and there is no curl or ribbon at the nape of the neck in XLVII to L. There is another rather remarkable difference between the groups—a very high percentage of those struck from the later dies (as numbered here) are *double-struck*, some so slightly that it is not easily noticed except with a glass, but many very badly double-struck (e.g., no. 113 on PLATE X). It almost looks as if, for some reason, less competent workmen used the later (?) dies, and struck far fewer coins with them, much less well.

The die positions are as follows:

↑c	-	199
“↑”	-	17
↑c-n	-	29
↑n	-	3
↑c-f	-	13
others	-	0

In short the vast majority are truly vertical, with the line taken through the center of the neck. In this they differ from all of the earlier groups, and also from the succeeding group, the drachms with a satyr's head as symbol, which tend to tilt forward like the earlier ones. It has been mentioned that there are no examples in the earlier groups of dies set in such a way that when the reverse is vertical the head on the obverse tips backward; here, where it faces in the opposite direction, the head usually is ↑c, but a tip back is more common than a tip forward. Whatever the mechanism by which the dies were adjusted may have been, an error or inaccuracy seems to have been easier in a counter-clockwise direction. As in the previous groups, coins from the same pair of dies tend to have the same die positions, or very similar ones; thus of the fourteen coins from XLIII-55, seven are ↑c, five are ↑c-f, and two are “↑”: an unusually high proportion of ↑c-f.

It is interesting that there are no ↑c-f positions with obverses XLIV and XLV (138 coins), and only two ↑c-n—and no ↑n—with obverses XLVI to L inclusive (72 coins); this can hardly be chance, but the explanation is obscure.

The frequency table is strikingly similar to that for the kantharos drachms: two stray specimens weigh 62 grains, a dozen weigh 61, there are many weighing 60, and the greatest number by far weigh 59.

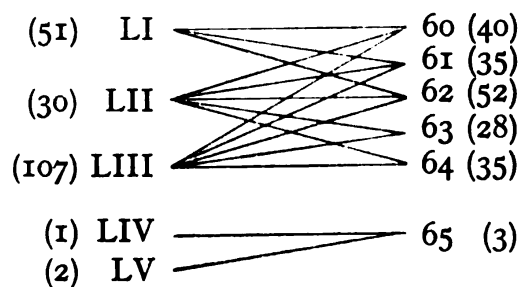
In short the issue was struck rather irregularly, to a weight distinctly higher than that employed for the drachms without symbol and for those with the grapes, but identical with that used for the kantharos drachms. In compiling the table, of course, all coins were omitted which had been broken or which showed obvious incrustation or hard surface deposit—these were mostly from the Eretria hoard of 1937 and, as it happens, were more numerous in this group than in the others; light coins, on the other hand, were included however obviously they had lost weight by cleaning.

THE DRACHMS WITH A SATYR'S HEAD AS SYMBOL

Date – about 289 or 279 B.C.

Obv. Female head (Euboia ?) l., triple drop earring, hair rolled, pupil not indicated.

Rev. Cow's head and neck turned three-quarters r., filleted; in r. field, a satyr's head.

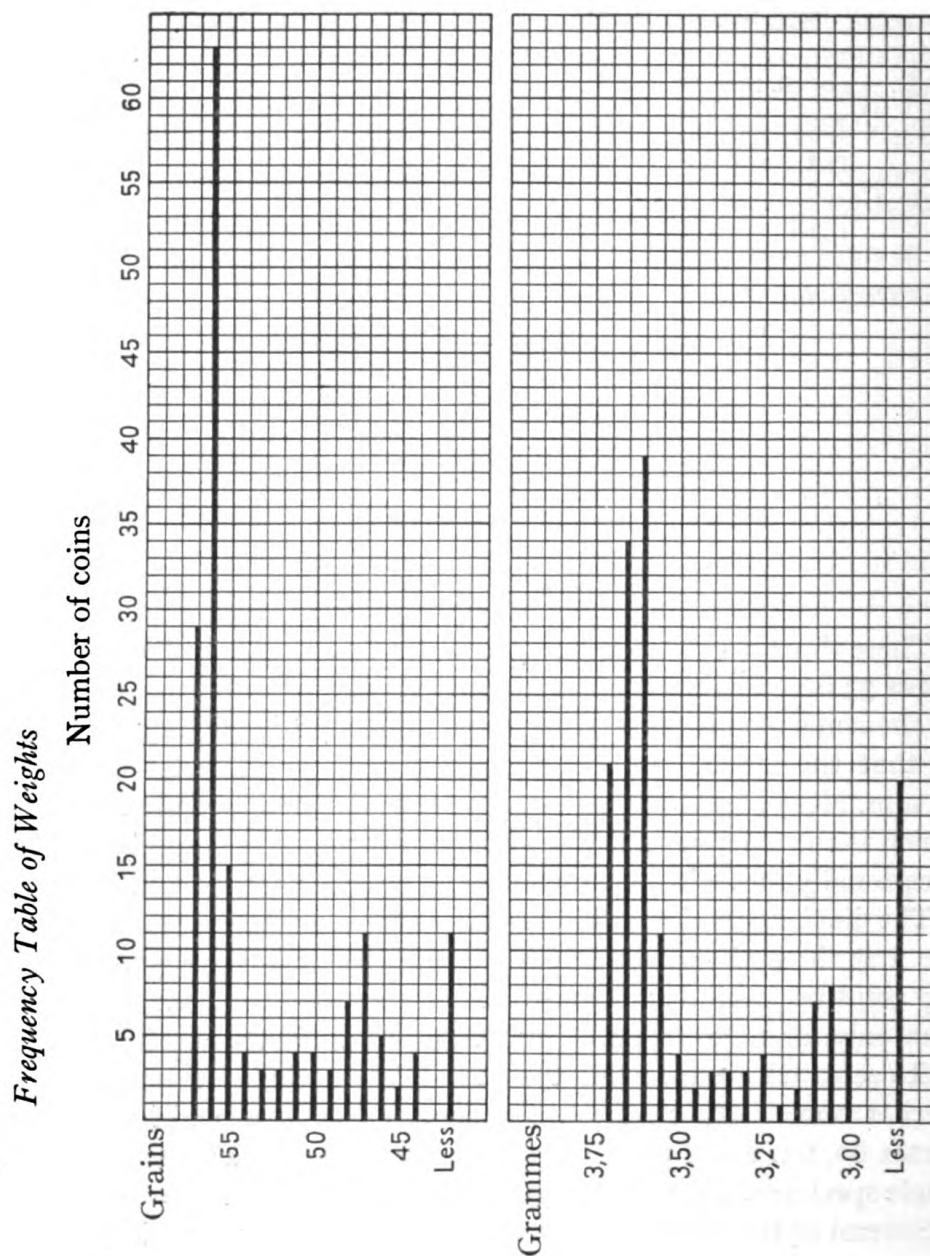
Die Diagram

These drachms were probably issued either in 289 or 279 B.C. (see pages 33 and 65 above).

The coins of this group show a tendency to thin widespread flans, so that the largest specimens reach a greatest diameter of 19 or 20 mm. Many, however, show a greatest diameter of about 17 mm, which is the average in the other drachm groups, and specimens are occasionally met with in which it is no greater than 15 mm.

The die linkages are rather curious, as the die diagram shows. From the first three obverses there are listed in the catalogue 51, 30, and 107 coins respectively; Obverse LIV is known to me from one specimen only, and Obverse LV from two, and these three coins form a quite separate group, while the other 188 are linked together. It is further remarkable that the connections of Obverse LII with Reverses 60, 63, and 64 should each be represented, at present, by a single specimen. I have no explanation to suggest for these anomalies.

Several of the dies show injuries the development of which can be traced. *Obv.* LIII, for instance, in many specimens shows a diagonal crack along the back of the neck which seems least marked with Revs. 60, and 61, and most developed with Revs. 62, 63, and 64. The curious die-break on the nape of the neck of *Obv.* LII, which looks almost like part of the hair, seems to begin with *Rev.* 62. And an



adhesion to the die above the horns in Rev. 60 shows with LI and LII, but not with LIII. In short the injuries to the dies seem to establish the order in which they were used, and yet the first three obverses were all used with each of the first three reverses, so that

one would naturally assume that all were employed contemporaneously. Perhaps the explanation is that there was a sudden demand for a fairly large issue, but few die-cutters were available. Accordingly the dies were put into service just as fast as they could be made; minting began—on this theory—with one obverse and one reverse die, and each of the others as it was finished was put into service at once along with those that were already in use. Thus although all the dies were used together as long as they lasted, those which had been made first saw service earlier and so became worn and finally broke and were discarded sooner than those which were finished later. But why Obverses LIV and LV and Reverse 65 should have been used by themselves and for so few coins, it is hard to see.

The die positions are adjusted vertically in most of the coins, the line being taken through the center (41 times) or front (39 times) of the neck or in a position intermediate between these two (39 times). With one pair of dies, LIII-63, the tilt is consistently somewhat more to the left than a line through the front of the neck would make it.²³ With twelve coins (nine of them from one pair of dies) the tilt is backwards. In general there is a strong tendency for coins from the same pair of dies to have very similar die positions, but only in the single case of the die combination LIII-61 are all the coins from a pair of dies oriented identically: ↑c. The explanation of this is, to me, obscure. The positions may be summarized as follows:

²³ There are 27 coins from this pair of dies listed in the catalogue; 22 are ↖, 3 are ↑f, and 2 are not known. This regular occurrence of an irregular position would seem to indicate that the dies were hinged or that the punch worked through a bracket in which it could not turn. The three coins in which the position is slightly different are probably inaccurately recorded—all three were in the Eretria hoard of 1937. As I recorded these positions myself this is perhaps an appropriate place to remark that it is difficult to be accurate about die positions, and they are frequently wrongly given. The best method appears to be to hold the coin with the side most easily estimated towards one (in the Euboian drachms this side is the reverse); then with a pen a small drop of ink may be placed, without turning the coin, on the top and bottom of the side which is turned away. This method seems to give more accurate results than merely turning the coin between finger and thumb, and the ink spots, of course, wipe off easily. An accurate record of the phenomena may lead to a better understanding of the technique of striking, which is as yet rather obscure.

↑c	-	41
“↑”	-	7
↑c-f	-	39
↑f	-	39
↖	-	22
↑n	-	2
↑c-n	-	10

The group is struck with extraordinary accuracy to a normal or standard weight distinctly lighter than that of any of the other issues (except, perhaps, the drachms in high relief—see page 85). The weights of the heaviest specimens are as follows:

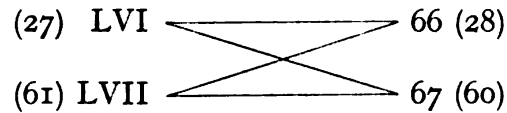
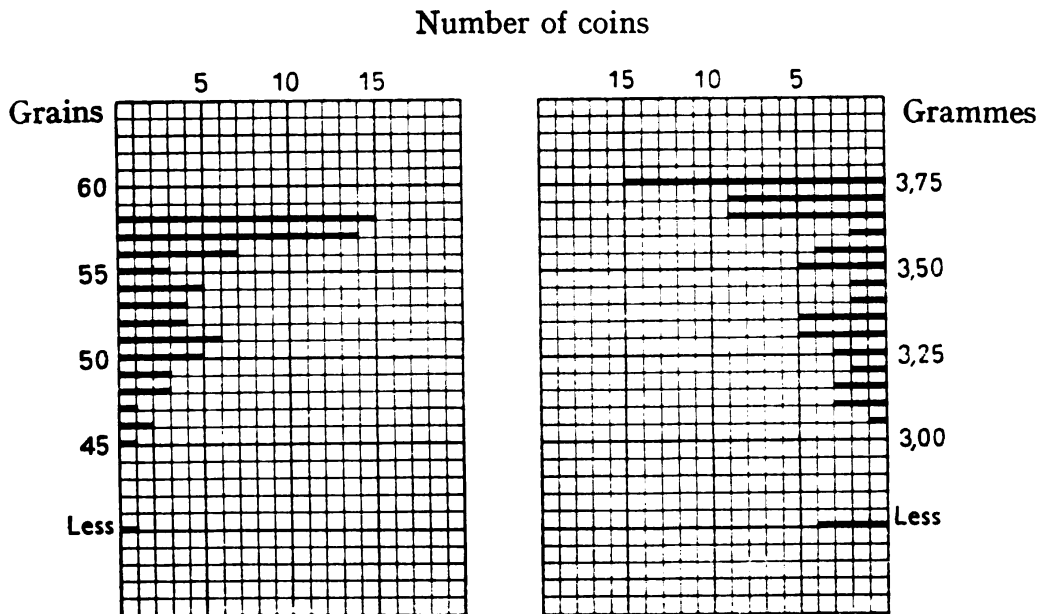
8 weigh 57.1 (3.70)
 8 weigh 57.0 (3.69)
 5 weigh 56.8 (3.68)

THE DRACHMS WITH A DOLPHIN AS SYMBOL

Date – about 270–267 B.C.

Obv. Female head (Euboia?) l., triple drop earring, hair rolled.

Rev. Cow's head and neck turned three-quarters r., filleted; in r. field, a dolphin; between horns, EY.

Die Diagram*Frequency Table of Weights*

The smallest, probably, and the last, certainly, of the silver issues of the Euboian League are the drachms with the dolphin symbol, struck probably about 270–267 B.C.—see page 34. They were recognized by Mme. Varoucha as the latest of the Euboian issues in the Eretria hoard of 1937, and by her properly dated by their style and

preservation to the early third century.²⁴ The issue was small, for it was struck from only two obverse and two reverse dies, and specimens may be considered rare, for only two have, as far as I know, appeared in dealers' catalogues.

Both weights and die positions are extremely accurate. The heaviest specimen known to me weighs 58.1 grains (3.767 gms.);²⁵ the next three heaviest weigh 58.0 (3.76); the next six weigh 57.9 (3.75); all of these are slightly worn except the Pozzi specimen, but it may have lost a little weight by cleaning. This is the only group of Euboian League drachms in which the dies are really accurately adjusted. The die positions are:

↑c	-	69
“↑”	-	6
↑c-f	-	1
others	-	0

All of the known coins struck from Obv. LVI show an injury across the nose of the nymph which gives her an unpleasant expression. Rev. 66 is also unsatisfactory, for the dolphin and the cow's left ear are placed too high, and the work is generally careless. It is thus perhaps no accident that twice as many coins have been preserved from each of the other two dies.

²⁴ See *Epitymbion Christou Tsounta* (Athens 1941) page 672. Mme. Varoucha suggests that the dolphin may be a reference to the maritime successes and pretensions of Demetrios Poliorketes. But the coins appear to be a few years later than the period of his control of Euboia—see page 65.

²⁵ No. 126 in the Gans Mail Bid Sale 14, March 1954, is described as weighing 3.81 gms. (58.8 grs.), but owing to the kindness of Mr. Gans and its present owner I have been able to check the weight, which is actually 3.767 (58.1).

The Fractions

The fractions which accompanied the tetradrachms and drachms of Attic weight have been discussed above, pages 83–84. As it is not clear with which of the later drachms the other fractions were issued, they are all collected here. It is to be hoped that the evidence of future hoards will eventually make it possible to arrange and date them more accurately.

HEMIDRACHMS

Group 1

Obv. Female head (Euboia?) r., hair rolled, single drop earring.

Rev. Cow's head and neck turned three-quarters r., no fillets; to r., a bunch of grapes; between horns, EY.

Group 2

Obv. Female head (Euboia?) l., hair rolled, single drop earring.

Rev. Cow's head and neck turned three-quarters l. or r., filleted (fillets follow cow's cheek instead of hanging straight); between horns, EY.

Group 3

Obv. Female head (Euboia?) l., hair rolled, single (Obvs. LXII and LXIII) or triple (Obv. LXIV) drop earring.

Rev. Cow's head and neck turned three-quarters r., filleted; between horns, EY.

Group 4

Obv. Female head (Euboia?) l., hair rolled, single drop earring; letters (EPETPIEΩN??) in front of face.

Rev. Cow's head and neck turned three-quarters r., filleted; between horns, EY.

Group 5

Obv. Female head (Euboia ?) r., hair rolled, single drop earring and necklace; behind neck, E.

Rev. Cow's head and neck turned three-quarters r., filleted; between horns, EY.

DIOBOLS

Obv. Female head (Euboia ?) r. (when E behind—Obvs. LXIX and LXX) or l. (Obvs. LXXI and LXXII), hair rolled, single drop earring and necklace.

Rev. Vine branch with two tendrils, three leaves, and two bunches of grapes; E-Y-B.

OBOLS

Group 1

Obv. Female head (Euboia ?) r., earring and necklace uncertain.

Rev. Cow's head and shoulder r., head turned three-quarters r., and l. ear shown, filleted; above, E-Y.

Group 2

Obv. Female head (Euboia ?) r. or l., single drop earring and necklace.

Rev. Cow's head and neck turned three-quarters r., no fillets; between horns, EY.

HEMIOBOLS

Group 1

Obv. Female head (Euboia ?) r., hair rolled, single drop earring, necklace uncertain.

Rev. Cow's hoof (split not shown); EY above (or to r., if hoof is considered to be upright).

Group 2

Obv. Female head (Euboia ?) r., hair rolled, single drop earring and necklace.

Rev. Cow's split hoof; E-Y.

UNCERTAIN DENOMINATIONS

1. *Obv.* Female head (Euboia ?) r., hair rolled, no earring or necklace.

Rev. Cow's head and neck turned three-quarters r., no fillets; between horns, EY.

Weight 22.4 grains (1.45 gms.).

This coin, the only recorded specimen of which is Copenhagen *Sylloge Numorum Graecorum* 481, is a puzzle. Breitenstein ingeniously calls it an "Aeginetic trihemiobol (?)," for which the theoretical weight would be about 23.9 (1.55). But no other Aeginetic fractions are known; it is strange, if they really existed, that the sole survivor should be a trihemiobol. And the relief is somewhat flat for a fraction that was struck to accompany the didrachms. But if it is not an Aeginetic trihemiobol, it would seem that it must be either an Attic or "Macedonian" triobol, in which case it is very light, or an Attic or "Macedonian" diobol, in which case it is very heavy. It is best (as Breitenstein's query suggests) to reserve judgment until other similar coins have been reported.

2. *Obv.* Female head (Euboia ?) r., hair rolled, apparently no earring or necklace.

Rev. Cow's head and neck turned three-quarters r., no fillets; to r., T (no EY).

Weight not recorded. Only one specimen known—from a cast in Imhoof-Blumer's cast collection now at Winterthur.

This coin is very similar in size and somewhat similar in style to number 1 above (Copenhagen *SNG* 481). In spite of the omission of EY one can hardly doubt that it is a coin of the Euboian League, and, if so, considering its size and the T in the right field, it is probably a

trihemiobol. It is unfortunate that its weight is not recorded and that no other coin like it is known.

In considering the hemidrachms it should first be noticed that the die positions of Groups 1, 2, and 3 are irregular, while Group 4 is mostly ↑c, and Group 5 is clearly ↑n. Group 1 is the only group in which the cow is not filleted, and Group 5 the only one in which the nymph wears a necklace. Finally, Groups 1 and 2 are fairly clearly earlier in style than the others, and Group 5 is fairly clearly the latest in style. Altogether there can be comparatively little doubt that their chronological sequence is the order in which they are numbered here.

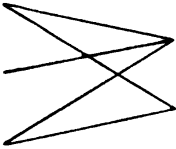

There was no point in presenting die diagrams for so few coins, but, as with the drachms, the dies are indicated in the catalogue.

It is not easy to connect the hemidrachm groups with the separate drachm issues. One might feel that the groups with the grapes symbol should go together; the style, however, of these hemidrachms seems very different from that of the drachms with the grapes symbol, and different too from that of Group 2 of the hemidrachms, which seems later. The coins of Group 2 are struck in rather high relief, and also share with the drachms in high relief the characteristic that the fillet follows the cow's cheek instead of hanging straight. But if Group 2 were supposed to accompany these drachms and Group 1 the drachms with the grapes symbol, this would not only change the order which seems probable on stylistic grounds, it would mean that two of the earliest and smallest of the lighter weight drachm groups were accompanied by fractions, while several of the larger groups had none.

Group 4 of the hemidrachms seems to have letters on the obverse as well as the usual EY on the reverse; Group 5 certainly has both an E on the obverse and EY on the reverse. It is hardly possible to read the letters on the obverse of Group 4 from the published photographs, and there is little or no trace of them on the only specimen (Wallace EL 510) which I have been able to examine. It appears from the photograph of the McClean specimen that the letters might be EPE]TP]EΩ[N, but the name is really too long for the available space, and would be very surprising in conjunction with the EY of the reverse, even though Eretria was probably the mint of the League coins. Nor does a magistrate's name seem very likely on this one

solitary issue. The E on the obverse of Group 5 (and on Obverses LXIX and LXX of the diobols) can hardly be the initial letter of EYBOIEΩN when EY appears on the reverse; it could, perhaps, be the initial of EPETPIEΩN if, *per improbabile*, that name appears on Group 4. The explanation must await the discovery of more legible specimens with the letters in front of the face. Of course it is quite possible that the E of Group 5 has no relation to the letters (if any!) of Group 4.

The denomination of the diobols is indicated by their weight and by their reverse type.²⁶ And it is clear both from their style and from the E on the obverse that they accompany the fifth group of hemidrachms. It is interesting to notice that Obverse LXXI of the diobols (head l., no E and no necklace) is doubly die-linked with Obverses LXIX and LXX where the head is larger, faces right, wears a necklace, and has E behind the neck. These obverses would, I think, have been separated widely by anyone who attempted to arrange the coins on the basis of style alone; cases like this show the value of attention to die connections. The dies of the nine diobols listed in the catalogue are related as follows:

(Head r., earring, necklace, E behind)	LXIX		78
(Head r., earring, necklace, E behind)	LXX		
(Head l., earring but no necklace, no E)	LXXI		79
(Head l., earring and necklace but no E)	LXXII		80

The obols and hemiobols call for little comment. Except for the two obols which clearly accompanied the drachms of Attic weight, it is not clear with which of the drachms or other fractions they are contemporary. The nymph's head faces either left or right, in both groups. Attention may be called to the amusing and appropriate selection of a cow's hoof as the reverse type for the hemiobols: it is a very successful application of the principle which at Corinth, for instance, suggested the use of a half-Pegasos on the hemidrachm and a horse's head on the hemiobol.

²⁶ "Les deux grappes indiquent bien qu'il s'agit d'une pièce de deux oboles" — Imhoof-Blumer in *Monnaies grecques*, page 224.

General Remarks on Weights and Dies

It is clear from the frequency tables and the synopsis that the various lighter weight drachm issues were not in fact struck to one single normal or standard weight, and yet that several of them were struck with great accuracy—to within, at most, half a grain or three hundredths of a gramme. These facts are of some importance, for students of Greek coins have too often arrived at their standard weights in a somewhat *a priori* manner, and have been very ready to believe that all Greek series were rather inaccurately struck.²⁷ It seems worth while to emphasize that some issues were accurately struck although some were not, and that coins might be carefully weighed with weights which were themselves too light or too heavy. When it has once been established, from an adequate number of examples, that a particular series was accurately struck to such and such a standard or theoretical weight, this information may be useful in a number of ways. One way which has not yet been exploited is set forth at some length above (pages 62–67).

The die positions of the various series of Euboian League drachms show a tentative adjustment early in the fourth century, and a rough but definite adjustment admitting hardly any exceptions in 340 to 338 B.C. It is interesting that there are absolutely no examples of the head (which faces left) being tipped back, to the right—this fact helps to identify the forgery described on p. 91. When we come to the

²⁷ "In view of the certainty of the weights for the denominations listed in the chart, [*a priori* certainty, that is—the actual specimens are highly irregular] it has not been felt necessary to construct frequency tables. Indeed the meticulous consideration of the weights in any series is supererogatory, since ancient methods of minting and the whole ancient conception of the purpose of coinage differ so greatly from those of the present."—from page 26 of *Macedonian Regal Coinage to 413 B.C.* by Doris Raymond, *NNM* 126 (New York 1953). This is a recent and unusually explicit example, but the opinion might almost be called orthodox; many excellent numismatists hold it, at least tacitly. Thus Professor Louis Robert does not trouble to give weights or die positions in publishing two Histiaian tetrobols for the first time in his *Etudes de numismatique grecque* (Paris 1951) page 186 and plate vi 10 and 11. The weights of the Histiaian tetrobols have been supposed to be extremely irregular, but in fact some of the numerous groups comprising the series are struck accurately, and the die positions in some groups are fixed while in some they are irregular: progress in arranging these coins will depend on the observation of such facts.

lyre group about the end of the fourth century, the fact that the head here faces in the opposite direction, to the right, is perhaps responsible for the general adoption of the $\uparrow c$ position—exceptions still tip left as a rule (the position is in this case $\uparrow n$, of course, not $\uparrow f$). With the satyr's head issue early in the third century, the head again faces left and the dies are again mostly $\uparrow c$, $\uparrow c-f$, and $\uparrow f$, as they had been from 340 to 320, but this time there are more exceptions than there were earlier. It is not until we reach the last group, those with the dolphin, issued about 270–267 B.C., that almost all of the coins show the same position, and that that position is $\uparrow c$, not $\uparrow f$. In all series coins from the same pair of dies *tend* to have the same or similar die positions, and in a few cases all coins from a pair of dies have exactly the same die relation. It is to be hoped that such observations as these may some time lead to a clearer understanding of the technique involved in striking ancient coins. Meanwhile the die positions in one case seem to give a clue to the order of the dies (see p. 97). It is also useful that the usual die position is something with which forgers are seldom acquainted.

Finally, as has long been realized, die links may provide useful information. This is especially true in series such as those under consideration here, where enough coins are known to make it probable that comparatively few die links have escaped attention. Even here it is obvious that future discoveries will make some additions to our knowledge. The number of known specimens is always indicated in the die diagram so that the reader may see how nearly complete (or incomplete) our information appears to be. In some cases, such as that of the rather rare dolphin drachms, where the 90 known specimens are struck from only four dies, it seems unlikely that more dies will turn up; it is also probable that we know all the dies and die combinations of the didrachms and tetradrachms. In most of the drachm groups there is a surprising and interesting disparity in the amount of use which different dies received, and the dies, surprisingly enough, frequently fall into two groups, one much used, the other very little. The explanation may be, as has been suggested above, either a frequent under-estimate of the number of dies required for an issue of the size intended, or additional demands for coin after the striking of an issue had been completed, and the dies destroyed. It is interesting that no obverse die was used for two different series; this fact

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supports the theory (based on comparative wear) that the issues were spasmodic, separated from each other by considerable periods of time. The links sometimes connect in indisputable fashion coins so different in style that without this evidence it would not have been realized that they belonged in the same group; we have seen evidence of this among the hemidrachms. Finally, since it is probable that we know almost all of the dies used for striking the League staters and later drachms, the number of dies is a more dependable indication of the original size of an issue than the number of surviving specimens. Thus while the drachms without symbol are only about twice as numerous in the catalogue as the drachms with the dolphin, they were struck from at least 18 dies as opposed to only 4 for the dolphin group; it is fair to conclude that they were originally at least three or four times as numerous. And as has been mentioned, in this particular case we can check the conclusion, for we happen to know why more in proportion of the dolphin drachms have survived—they had been much more recently minted at the time when the two large hoards were buried which between them contained almost half of the known coins of the Euboian League.

Note on Forgeries

There are comparatively few forgeries of Euboian League coins on the market, and of those few the only really "dangerous" ones which have come to my attention are imitations of the Aiginetic didrachms. Of these I saw a number of specimens in Athens in 1952, produced no doubt by the enthusiasm which resulted from the discovery of the 1951 Euboio-Boiotian hoard (no. 3 on page 49). I was able to make rather hasty casts of two which had been struck from the same pair of dies—see PLATE V, A. These dies were extremely close copies of III and 2 in Group 1, so close that they can only be distinguished by careful examination under a glass: the differences are clearest in the eye of the obverse (the forger has represented the pupil) and in the tail of the reverse. The silver was not very different in appearance from that of the genuine coins. As the dealer who showed them to me had no doubt that the coins were "bad," he presumably knew something of their source.

A very ingenious invention is the forged tetradrachm shown to Mme. Varoucha at the National Numismatic Museum in Athens by a

German collector during the war—see PLATE V c.²⁸ The reverse type is unique in a highly plausible manner—the inscription has been completed by the addition of ΕΩΝ below the exergue; and although there is a faint indication that the forger intended the animal for a bull, and the letters are somewhat smaller than they are on the genuine coins, the die is still very convincing. The same cannot be said for the obverse die in which the hair is poorly done with excessively thin lines and masses which are too sharply defined, while the features are somewhat coarse. I have seen three other tetradrachm forgeries from a different reverse die but apparently from this same obverse reworked—see PLATE V, B.²⁹ Here again the reverse inscription is arranged in a unique but reasonable manner, imitated from certain of the “Attic” drachms—EY-B above, the B being between the horns—but the animal is poorly proportioned and this time obviously a bull; the fabric and the appearance of the silver were both such as to deceive no one. The weights—16.95 and 16.75—are an intelligent compromise: the standard on which these coins were struck was probably in the neighborhood of 265 grains or 17.17 grammes (see page 77), but the heaviest known specimens of Group 1 of the tetradrachms, which these forgeries imitate, weigh 16.60 and less (unless the coin which the forger copied was heavier and has not appeared on the market). Thus these forgeries which are ostensibly in extremely fine condition were made to weigh definitely more than the coin from which they were copied, but not as much as the Attic standard seems to demand. We clearly have to do with a well-informed but technically incompetent forger.

The ancient forgery of one of the early drachms of ‘Attic’ weight is discussed on page 81, and the interesting forgery in the Newell collection on page 91. See PLATE VIII, E. Otherwise the only drachm forgery which has come to my attention is Christodoulos 257 (in Svoronos, *Mille coins faussés de Christodoule*, Paris 188), a specimen of which is illustrated on his plate I. The hair is done with excessively fine lines, and is imitated from obv. XXXV of the drachms without symbol; the cow on the reverse is not unlike that on the Newell coin—especially the heavy line about the eye.

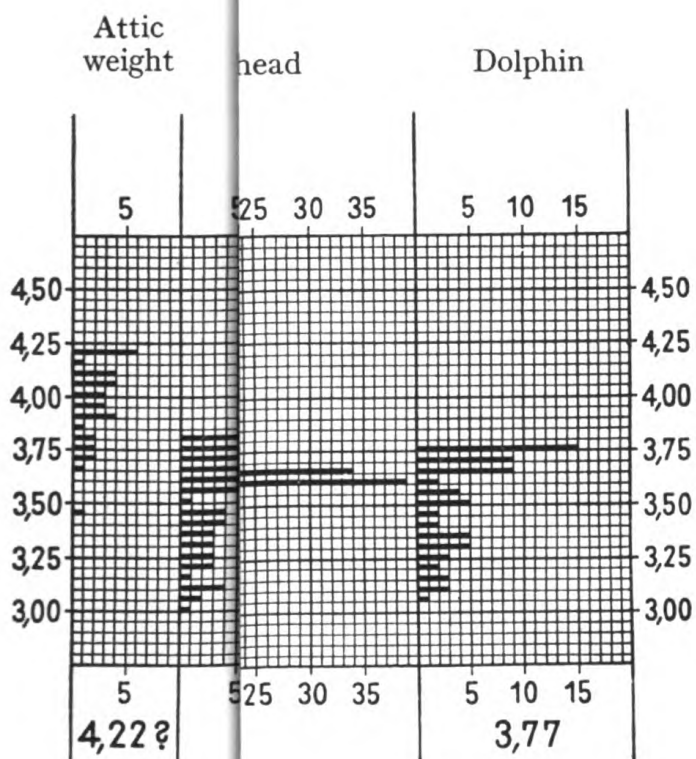
²⁸ I owe the cast which is photographed here to the kindness of Mme. Varoucha.

²⁹ I owe the opportunity to make the casts which are reproduced here to the kindness of Professor D. M. Robinson of Mississippi University.

SYNOPSIS OF THE SILVER ISSUES

<i>Approx. date</i>	<i>Standard weight</i>	<i>No. of dies Obv. Rev.</i>	<i>Die position</i>	<i>% of Copper³⁰</i>	<i>Number listed</i>
Aiginetic didrs.					
1. Head on rev.	411 B.C.	3	2	.35	27
2. Head on obv.	405 B.C.	2	5	.35	42
Tetradrachms					
1. With EYB	400 B.C.	2	1	?	21
2. With EY BOI	395 B.C.	3	1	?	20
Attic weight drs.					
1. With EY or EYB	400 B.C.	8	8	6.5	30
2. With EY BOI	395 B.C.	3	1	?	5
Lighter weight drs.					
1. High relief	357 B.C.?	2	4	3.25	12
2. No symbol	340 B.C.	6	12	.42	153
3. Grapes	338 B.C.	2	7	.62	83
4. Kantharos	321 B.C.	5	7	.9	300
5. Lyre	302 B.C.	8	6	1.3	292
6. Satyr's head	289 B.C.?	5	7	.39	196
7. Dolphin	267 B.C.	2	2	1.8	90
Early hemidrachms					
Early diobols	400-395?	4	3	?	5
Early obols	400-395?	1	1	?	1
Later hemidrachms	400-395?	2	2	?	2
1. With grapes	?	2	2	?	38
2. High relief	?	2	2	?	3
3. EY on rev. only	29.5 (1.91)	3	3	?	4
4. Letters on obv.?	29.5 (1.91)	1	2	?	7
5. E behind neck	28.6 (1.86)	3	1	?	9
Later diobols	?	4	3	?	15
Later obols	?	?	?	?	9
Later hemiobols	?	?	?	?	4
Uncertain denominations	?	?	?	?	3
					Total 1335

³⁰ For details see E. J. Allin and W. P. Wallace, "Impurities in Euboean Monetary Silver," *ANS Museum Notes VI*, 1954, pp. 35-67.



SYNOPSIS OF THE SILVER ISSUES

IV. THE BRONZE ISSUES OF THE LEAGUE

The Hoards

The hoards known to me which contained bronze coins of the Euboian League are the following:

1. The Iseion Hoard. Noe, *Bib. of Gk. Coin Hoards*², no. 401. Found in 1914.

Published by N. Pappadakis, in *Archaiologikon Deltion* I (1915) pp. 115-190.

352 AE, 1 AR. Probably buried in 194 B.C.

40 Euboian League

1 - Cow standing l.; two bunches of grapes. Pappadakis no. 40

20 - Cow lying, no star or magistrate's name; two bunches of grapes, EYBOEΩN—letters sometimes across, sometimes down from the grapes. (?—see below). Pappadakis nos. 19-38

18 - Magistrate Issue, 196-194 B.C.

Demarchos - 4. Pappadakis nos. 15-18

Satyros - 14. Pappadakis nos. 1-14

ITAIΞ (?—see below) - 1. Pappadakis no. 39

225 Eretria - all Mantidoros.

32 Chalkis

31 - Facing head; eagle l., and XAA. Pappadakis nos. 267-297.

1 - Facing head; eagle l., ΦΙΛΙΣ above, ΑΑΘ below. Pappadakis no. 266.

1 Boiotia - Athene head r.; trophy. Pappadakis no. 298.

54 Uncertain - of above types, mostly Chalkis. Pappadakis nos. 299-352.

1 AR triobol of the Euboian League. Pappadakis no. 353.

Unfortunately Pappadakis says nothing about the comparative condition of the specimens belonging to the different issues; he gives the sizes (16-20 mm. for all issues except the triobol), but no weights. His date for the coins follows Head (*HN*³ p. 363), and is too late, as Newell showed (see below). The identification of the 20 League bronzes with a lying cow but no star or magistrate's name is uncertain—I have seen no coins which exactly answer the description, and am

inclined to think (until the coins can be examined) that these twenty are perhaps a mixture of the large third century bronzes and the medium bronzes of the Demarchos-Satyros type, all in such poor condition that the stars and magistrate's names did not show. They may, however, belong to an issue which is otherwise unknown: Papadakis does not illustrate a specimen. The single specimen with ITAIΞ is also otherwise unknown, and it is hard to believe that the letters have been correctly read.

2. Newell's Hoard. Noe² 400. Found before 1909.

Published by E. T. Newell in *Five Greek Bronze Hoards*, NNM 68, (New York 1935) pp. 1-23.

184 AE. Buried c. 175 B.C.

84 Euboian League

12 – Cow standing l., star above, two letters below; vine branch with two bunches of grapes. letters:

1 – Magistrate Issue, 196-194 B.C. Demarchos

71 – Veiled head r.; butting cow (or bull) r., with symbols

star and caduceus – 4

star – 3

leaf – 4

leaf with K behind cow – 5

trident above – 6

wreath – 8

trident below – 8

✕ below – 5

⚡ below – 1

grain of wheat r. – 5

grain of wheat below – 14

uncertain – 8

9 Eretria

1 – Mantidoros

8 – Aristonikos

85 Chalkis

2 – Head facing; eagle l., XAA

1 – Head facing; eagle r., XAA

82 – Head r.; eagle r., XAA below, various symbols

Newell's discussion of the hoard is the only serious work that has been done on these coins to date; by careful examination of the comparative wear he has arranged the issues in their right order; he has

realized that, for these coins, weight is more important than metal size, and in a brilliant note (no. 12 on p. 14) he has distinguished and connected two different bronze issues of Chalkis; finally, by comparing his hoard with Pappadakis' he has corrected the usual dates assigned to the various Euboian bronze issues, and fixed the approximate dates of both hoards. It is easy, now that the broad outlines have been laid down, and more material is available for study, to make corrections in detail (see the discussion below).

3. Wallace AE 2. Found before c. 1940.
22 AE. Buried c. 175 B.C.

12 Euboian League

- 1 – Satyros: 3.4 gms. Much worn
- 11 – Veiled head; butting cow. Much worn
 - star and caduceus – 2: 4.6, 4.15 gms.
 - star – 2: 5.3, 4.5 gms.
 - leaf – 1: 4.45 gms.
 - wreath – 3: 5.6, 4.4, 3.3 gms.
 - grain of wheat? – 1: 5.2
 - uncertain – 2: 4.55, 4.4

8 Chalkis

- 5 – without symbol. Very much worn 6.15, 5.3, 4.8, 4.45, 4.0
- 3 – with uncertain symbols. Little worn 4.6, 4.5, 4.4
- 1 Karystos – bearded Herakles r.; cow standing r. in wreath. Very much worn. 3.3
- 1 Syracuse. Hieron H—female head l., bull butting l. Little worn 3.5.

There is no formal evidence that these coins came from one hoard, but they were secured at the same time from the same dealer and all of them show the same kind of green patination; I have no doubt that they were found together. The die positions are all obviously irregular, and have accordingly not been indicated. The comparative wear of the different issues of the League suggests the order in which they are listed here, and supports Newell's arrangement.

4. Wallace AE 3. Found before c. 1940.
59 AE, 1 AR. Buried c. 170–165 B.C.

- 10 Euboian League – Veiled head r., cow butting r. Worn
 star and caduceus – 1: 4.2 gms.
 wreath – 2: 4.1, 3.8
 trident below – 1: 4.6
 grain of wheat – 1: 4.0
 uncertain symbol – 5: 4.5, 4.3, 3.8, 3.6, 2.8 (broken)
- 2 Eretria – Veiled head l., cow lying l. Little worn
 Aristonikos – 1: 4.1
 Lysandros – 1: 5.1
- 42 Chalkis
 without symbol – 2: 5.9, 4.7. Much worn
 with symbols as follows. Little worn
 XAA below, trident by head – 1: 4.6
 XAA below, dolphin and palm leaf – 1: 4.9
 XAA below, bunch of grapes – 2: 4.3, 3.4
 XAA above, thunderbolt – 7: 4.8, 4.4, 4.4, 4.2, 3.7, 3.7, 3.3
 XAA above, amphora – 4: 5.6, 4.3, 3.9, 2.8 (broken)
 XAA above, caduceus – 1: 5.4
 XAA above, club – 1: 4.7
 XAA above, stalk of wheat – 1: 3.9
 symbols uncertain – 22: 20 are between 5.5 and 3.5, 1 is more and
 1 is less.
- 1 Klazomenai. 387–301 B.C. Helmeted head of Athene r.; ram lying r.,
 [KAAIOME]NIΩN. 3.5✓ Very much worn.
- 1 Amhipolis. Helmeted head r.; horse feeding r., illegible letters. 3.4↗
 Worn.
- 2 Athens
 330–307 B.C.¹ Athene r., olive spray; owl l. in wreath, AΘ-H. 3.6↘
 Much worn.
 Head of youthful Dionysos r.; kantharos, [A]ΘE 3.6↑ Worn.
- 1 Amasia in Pontus, under Mithradates VI, 120–63 B.C. (?) Perseus r.;
 cornucopia between caps of Dioskouroi above which stars,
 AMAΣ-ΣEIAΣ. 4.2↑ Somewhat worn.
- 1 AR hemidrachm of the Opountian Lokrians. 2.53✓ Worn.

These coins were also secured together and it was stated that they had been found together; the patination in general supports this claim, although it is less convincingly homogeneous than in the last hoard. The die positions of the Euboian coins are irregular. The comparative wear of the various Euboian League and Chalkis issues suggests the order in which they are listed, and, as it is consistent

¹ See Josephine P. Shear, "The Coins of Athens," *Hesperia* II (1933) p. 246–7, Group E, Type 6.

with the evidence of the other hoards, supports the view that this group of coins was found together. If so, however, the Amphipolis coin, the Athenian Dionysos/kantharos coin, and the Amasia coin are intrusions, for they are definitely more worn than the two Eretria coins which can hardly be put at the end of the second century.

5. Wallace AE 1. Found before c. 1920 in Euboia.

240 AE Buried c. 170–165 B.C.

75 Euboian League – Veiled head; butting cow. Worn

star and caduceus – 4: 7.3, 4.1, 4.0, 3.9

star – 2: 5.3, 5.1

leaf – 4: 5.1, 5.1, 4.8, 4.6

leaf, with K behind cow – 1: 5.0

trident above – 4: 5.2, 4.9, 4.1, 3.2

wreath – 2: 5.7, 4.2

trident upright below – 1: 4.5

trident facing r. below – 2: 4.9, 4.6

✕ below – 3: 5.5, 5.3, 4.1

grain of wheat below – 10: 6.1, 5.7, 5.1, 5.1, 4.9, 4.3, 4.3, 3.8, 3.6, 3.6

symbol illegible – 42: of these 38 weighed between 5.5 and 3.5, the others were 7.1, 5.6, 3.4, 3.2

4 Eretria

Aristonikos – 1: 4.3 Somewhat worn

Alexippos – 1: 5.4 (somewhat incrustated) Very little worn

Lysandros – 1: badly incrustated

Uncertain – 1: very badly incrustated

157 Chalkis

without symbol – 24. Very much worn

19 were between 3.5 and 5.5, the others: 6.2, 5.7, 5.7, 5.7, 3.1

facing head; eagle r. tearing snake – 1: 3.7 Much worn

(Bab. III, 3, pl. 197.12)

facing head; eagle l. tearing snake – 1: 2.1 Worn

(Bab. III, 3, pl. 197.14)

with symbols. Little worn

XAA below, trident by head – 20: 16 were between 3.5 and 5.5, the others: 6.2, 6.1, 5.9, 2.8

XAA below, star by head – 6: all from 3.5 to 5.5

XAA below, bunch of grapes by head – 2: 3.9, 3.8

XAA above, thunderbolt below – 16: all 3.5 to 5.5

XAA above, stalk of wheat below – 2: 5.6, 4.3

XAA above, wing below – 2: 4.7, 4.3

symbol illegible – 83: 74 from 3.5 to 5.5, all of them between 3.0 and 5.7

1 Karystos. Veiled head; butting cow or bull: 4.2↑

1 Thessaly. Head of Apollo r.; Athene Itonia r.; 5.3↑

2 Uncertain.

These coins were stated to have been found together in Euboia “many years ago;” I could get no information about the date except that it must have been before about 1920, perhaps long before that date. There seemed little guarantee that the group had not been contaminated before 1920 (I was told that it had been kept together since then) except the generally similar—but not convincingly identical—patination. However, when I came to work on the coins I discovered that the relative wear of the various issues in this group is thoroughly consistent with that in the hoards listed above; I accordingly accept them as a hoard or part of a hoard. The die positions of the Euboian coins are irregular. The issues of each separate group are listed in what appeared to be the order of wear, but the differences are often slight, and the order cannot be depended upon in detail.

Discussion

There had been no special study of Euboian bronze before Newell, in 1935, published his hoard (listed here as no. 2). He established the fact that some of the issues both of Chalkis and of the Euboian League must belong to the third century, and determined the comparative dates both of his hoard and of Pappadakis’ and of the various issues in them. Our investigation must begin from his conclusions.

Newell’s just observation that the style and appearance of the lying cow or bull on the Aristonikos coin in his hoard was very similar to that of the cow on the silver octobols of Eretria led him to the conclusion that the two must be identical in date, and as he believed that the silver issues were struck soon after 190, or at least as late as 192/1, he dated the Aristonikos coin “after 191,” describing its condition (the best in his hoard) as “very good to fine.” Under these circumstances it is rather surprising that the burial date he arrived at for the hoard was “late in 192 B.C. or . . . in the early summer of

191 B.C.” This is clearly too early on his own principles; that it is so becomes even clearer when he lists at least ten different issues of the Euboian League “veiled head / butting bull” coins which he dates “after 194”—there is obviously not room for these between 194 and 191, and all of them are considerably more worn than his Aristonikos coin (not to mention the Chalkis coins—see below). As the 194 date for the “veiled head” coins is probably right (see below), it is safe to conclude that Newell’s date for the burial of his hoard is a good deal too early, and that the least worn coin in it, the Aristonikos specimen, cannot be contemporary with the first silver issues of Eretria, if these are as early as 190 (they should, in fact, be dated from 196—see below).

Newell was necessarily concerned almost entirely with the coins which actually occurred in his hoard, and there was, as we have remarked, no good publication or large collection of Euboian bronze to which he could refer for additional specimens of the coins with which he was dealing. Thus it happened that the poor condition of his no. 104 (PLATE XIV, no. 13), with the magistrate’s name Demarchos, prevented him from noticing that the two bunches of grapes on the reverse are somewhat different in appearance from the two bunches on the reverses of nos. 92–103—all of them also in very poor condition—with which he connects it (although he carefully records that it was less worn than the others). In point of fact his 92–103 have a small vine leaf to the left of the bunches of grapes, and small tendrils to the right of each bunch, while the Demarchos coins, like those of Satyros, have no tendrils, but one leaf to the right of each bunch (see PLATE XIV, no. 14). The bunches are also shorter and more compact in these later issues. They are, as a glance at PLATE XIV will show, absolutely identical in style and form with the two bunches of grapes on the reverses of the Eretrian silver tetrobols (PLATE XIV, no. 15); indeed the lying cow or bull of the Demarchos group is just as similar to the one on the octobols as is the animal on the Aristonikos coin. The Demarchos group should be connected in date with the silver issues, and with the Mantidoros bronze issue, of Eretria—full magistrate’s names are thus introduced at the same moment on the League bronze and on the first Eretrian bronze and silver to appear for more than two hundred years. This moment would most naturally be soon after

Flamininus' proclamation of freedom for Greece in 196, and this is the date arrived at independently on the evidence of the Anthedon hoard by Margaret Thompson.² The types of the bronze were changed again in 194 when the Euboian League was reconstituted by Flamininus, and the veiled head type for bronze was introduced (contemporaneously on this view) by the League, Eretria, and Karystos,³ and thus the smallness of the Demarchos-Satyros and Mantidoros groups is explained by the shortness of the period during which they were struck. The only change which this introduces into Newell's arrangement of the League bronze is to make his no. 104 (the League Demarchos coin) contemporary with his 105 (the Eretrian Mantidoros coin) instead of putting it a few years earlier, and to date both issues to the period 196-194 instead of putting them at the end of the third century. The change is slight—indeed Newell himself envisaged the possibility that the Mantidoros coins should be placed early in the second century rather than late in the third (l.c., p. 16). The assumption that Eretria continued her League issues alongside of her new autonomous coins is simpler than the alternation proposed by Newell ("Euboians" in the third century, "Eretrians" in the early second, "Euboians" again after 194, and "Eretrians" again after 190). As for the new Eretrian silver, both the Anthedon hoard and the analogy of the Demarchos group make it desirable to suppose that it began in 196—and Flamininus' proclamation is surely a more natural occasion for it than the Battle of Magnesia, which as far as Eubolia was concerned meant only the permanence of Roman domination and the end of any hope of real freedom.

Both in hoard 4 and in hoard 5 above, the Chalkis bronzes with symbols were distinctly less worn than the Euboian League group with the veiled head. It is clear from Newell's plates that this was also true of his hoard, although curiously enough he describes the condition of the League coins carefully, but omits to mention that of the Chalkis bronzes. As the three hoards all point to the same con-

² See Margaret Thompson, "The Beginning of the Athenian New Style Coinage," *ANS Museum Notes V* (1952) pp. 30-31.

³ Newell's first six coins are Karystos bronze of this type. If the Chalkis tetradrachms with a veiled head on the obverse should be associated in date with these bronze issues, three Euboian cities will have introduced the same new type at the same time.

clusion, we can hardly be wrong in putting the Chalkis coins with symbols later than the Euboian League veiled head group (and those with XAA above the eagle seem to be later than those with XAA below it). On the assumption that there was not more than one issue a year (it is, of course, an assumption for which there is little or no evidence) the veiled head coins, if they began in 194, perhaps lasted until about 180, for there are twelve or thirteen symbols known; if the Chalkis coins begin about that date and last for about a dozen years—there are eleven symbols known—we arrive at the date of Pydna, in 168. This is, perhaps, purely accidental, and certainly there are many unknowns in the argument. But the resulting arrangement seems reasonable; it was on this line of reasoning that the very tentative dates were arrived at which are suggested above for the burials of these bronze hoards. The table at the end of this chapter shows the proposed relation of the Euboian League bronze to the pertinent autonomous issues of Eretria and Chalkis.

The bronze issues of the Euboian League may be summarized as follows:

In the fourth century, the League struck bronze with types similar to those of the silver drachms, in small and very small denominations, of which too few examples are available to form the basis of dependable generalization. They appear, however, to weigh respectively from 2 to 2.5 grammes (in size, from 12 to 15 mm.) PLATE XIV, 3, and from 1 to 1.5 grammes (in size, from 9 to 10 mm.) PLATE XIV; 1, 2, 4 & 5. They have not occurred in any hoards known to me.

In the third century the League struck bronze in three denominations, which may be distinguished as 'Large,' 'Medium,' and 'Small,' with similar types, as follows:

1. Large. Weight: from 6 to 8 gms. Size: from 20 to 22 mm. PLATE XIV; 6, 7 & 8

Obv. Cow lying l., star above, magistrate's initials or monogram below, in a circle of dots.

Rev. Vine branch with depending from it two bunches of grapes, one leaf (to l.) and two tendrils (to r. of each bunch). EY-BO-EQN or EY-BO or EYB or EYBO. Star above.⁴

Six issues are known: EY, ME, EE, ST, TI, AAE

⁴ Mr. Ireton Benson of New York has called my attention to a specimen in which the letters A-PI appear on either side of the star. See PLATE XIV, no. 8.

2. Medium. Weight: from 3.5 to 5.5 gms. Size: from 16 to 20 mm.

PLATE XIV; 9 & 10

Obv. Cow standing l., star above, magistrate's initials or monogram below, in a circle of dots.

Rev. As above, but no leaf, and three tendrils. Sometimes with initials of *obv.* on either side of star.

Four issues are known: AI, ME, EE, ΣT

3. Small. Weight: from 2 to 3 gms. Size: from 12 to 15 mm. PLATE XIV; 11

Obv. As above.

Rev. Vine branch with depending from it one bunch of grapes and two tendrils. E-Y. Star above.

Two issues are known: AI, A

Only five specimens are known to me.

As the same letters occur on different denominations, there were probably at least eight issues—AI, AΛE, EY, ME, A, EE, ΣT, TI—although all three denominations need not have been struck each time. Their condition in Newell's hoard suggests that they belong in the second half of the third century.

Between 196 and 194 the League issued bronze in two denominations, as follows:

- Medium. Weight 3.5 to 5.5? Size 15 to 20 mm. PLATE XIV; 12, 13, 14.

Obv. Cow lying l. (Demarchos) or r. (Satyros), star above, name below, in a circle of dots.

Rev. Vine branch with depending from it two bunches of grapes and a leaf to the r. of each; above the branch, a star (Demarchos) or EYBOEΩN (Satyros). The Demarchos issue has EYBO-EΩN around the bunches of grapes.

- Small. Weight 2 to 3 grammes? Size 12 to 15 mm. PLATE XIV; 16 and 17.

Obv. Cow standing r., star above.

Rev. Vine branch with two bunches of grapes as above. EYBOEΩN?

I know only two specimens of this issue, both in poor condition. Pappadakis describes a third issue of the medium denomination, which occurred in a single example in his hoard (his no. 39), with ITAIE as the magistrate's name. It seems probable that his specimen

was almost illegible (could he have misread AΛE as IT A IE?), and a definite opinion must wait on the appearance of further examples; there might, however, be room for three annual issues (although it is only an assumption that the issues were annual) between 196 and 194. These coins are rare; aside from the 18 in Pappadakis' hoard, which was probably buried just after they were issued, a bare half dozen have been recorded. This rarity is natural if they were struck for only two or three years.

Beginning, probably, in 194, the Euboian League—and Eretria and Karystos, too—issued bronze coins with a veiled head on the obverse and a butting cow (or bull?) on the reverse. Both types are new in Euboia. Is the head perhaps Isis? We know that the Iseion at Eretria (in which Pappadakis' hoard was found) was begun in the third century, and was flourishing in the early second; there is evidence for the worship of the Egyptian divinities at Chalkis as well as at Eretria. The popularity of a new deity might help to explain the introduction of the type in two (or in three?) cities at the same time. But this contemporaneous introduction of the same types in the three southern cities was probably arranged by the League—perhaps as a compromise between the Eretrian feeling that only the League should strike coins, and the hitherto independent practice of the other Euboian cities. Demeter, who was frequently identified with Isis, is another possible attribution (see note 84 in Chapter 1).

Whatever the reasons for the choice of types employed for the 'medium' bronze, the coins were struck in considerable numbers and over a period of at least twelve to fifteen years, if one may judge from the fact that twelve or thirteen different symbols are found. At the same time, apparently, the 'small' denomination was struck, also in considerable numbers, but with fewer symbols. The following list contains all the types which have come to my attention, but may well be incomplete, especially for the issues of the 'small' denomination, which have not been found in any hoards known to me—and neither museums nor dealers are particularly interested in them.

Medium. Weight 3.5 to 5.5 gms. (see graph below). Size 15 to 20 mm.

PLATE XV, 1-9.

Obv. Veiled head r.

Rev. Cow (or bull) butting r. EYBOI (above) EΩN (below). Various symbols, above – between EY and BOI, to r. or l., or below – between E and ΩN, or r. of EΩN. Symbols (in apparent order of wear in hoards):

star and caduceus to l.
 star above
 leaf above
 leaf above and K behind cow
 trident upright above
 wreath above
 trident upright below
 trident facing r. below
 × below
 ⚡ below
 grain of wheat to r.
 grain of wheat to r. of EΩN below
 palm branch r.

Small. Weight under 3 gms. Size 11 to 14 mm. PLATE XV, 10–16.

Obv. Cow standing r.

Rev. One bunch of grapes, sometimes with a much smaller one on a branch to l.: sometimes with leaf to r. EY-BO, EYB-O or EYBO l. or r. Symbols (above cow):⁵

no symbol
 club
 wreath
 cornucopia
 sword

There are three further bronze issues, one of them 'small,' and two, apparently, very small, which are presumably later than any of the Eretrian or Chalkis bronzes in the hoards listed above as these contained no specimens. All three of them are rare:

Small. Weight under 3 gms. (and probably more than 2). Size 11 to 16 mm.
 PLATE XV, 17–18.

Obv. Veiled head facing, turned slightly to the r.

Rev. Prow r.; above and below, EYBOI-EΩN. Sometimes star and cornucopia on prow.

⁵ An additional obverse symbol, a thymiaterion, and a number of reverse symbols are listed by Head (*Central Greece* p. 97) and Babelon (*Traité* II. 3, 200–202), but I have not seen specimens on which they are clearly visible.

Very small. Weight? (probably under 2 gms.). Size? (probably 10 to 15 mm.)

Obv. Cow's head facing (like the Phokian)

Rev. Ship's rudder (or single prow?) r. EYBOI-EΩN. PLATE XV, 19 & 20.
Only three specimens have been recorded (two in the British Museum and one in the McClean Coll.)

Obv. Head of Hermes r., wearing petasos

Rev. Ear and stalk of wheat r.; above and below, EYBOI-EΩN.
PLATE XV, 21.

These coins (I know only four) seem to be slightly smaller than the cow's head and rudder issue.

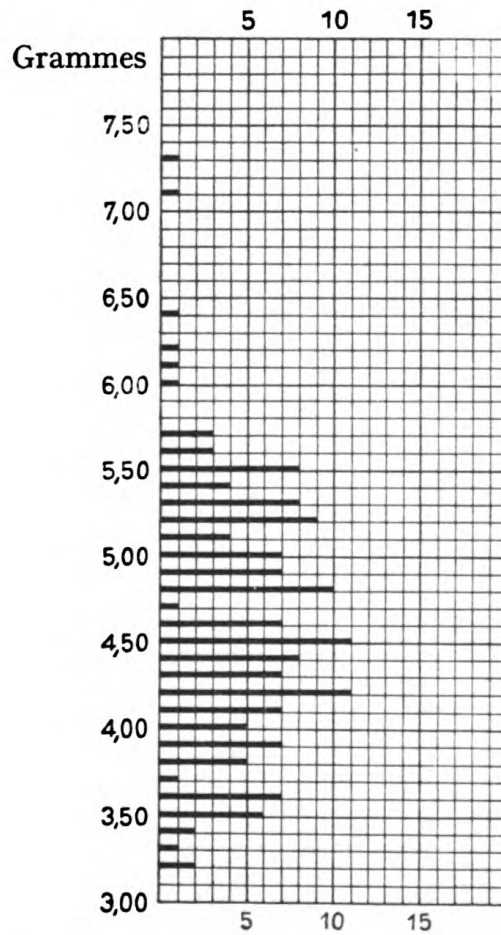
If we are right that the League bronze with the veiled head is all of it earlier than the Chalkis bronze of the same denomination with symbols, and that these last three issues are later than any of the Chalkis bronzes, it follows that these last three issues were struck towards the middle of the second century. Eretria and Chalkis will then have abandoned their coinage somewhat earlier than the League. They struck again under the Roman empire, but there are no further coins of the Euboian League.

It is well known that the Greeks did not strike their bronze coins nearly as accurately as their silver. As these coins were undoubtedly token money, the fact is not surprising—the metal had comparatively little intrinsic value—but it does not follow that the weight should be disregarded, and attention paid only to the size. The size may be less variable than the weight within a given group, but as the sizes of different groups are less different from each other than their basic weights, the weight is often, in Eubolia at least, a better guide to the denomination than the size. I have accordingly followed Newell in recording the weights of the coins in the hoards here published for the first time. The only Euboian League bronze group in which enough coins are known to make an attempt at statistical treatment worth while is the one the types of which are the veiled head and butting cow. In the following table I have included all the coins not obviously broken or heavily oxidized in hoards 2, 3, and 5 in which the variations of weight appear to be of the same order. As the ten coins of hoard 4 were on the whole lighter in weight than the others, they have been omitted from the table (their weights are given above). It will be seen that the weights fall almost entirely between 3.5 and

9*

5.5 gms. with no apparent preference for any one point in that range. Perhaps the blanks were cut 'by eye,' and then tested—as I have tested some of the Chalkis issues—by ascertaining merely that each blank fell within the allowable limits. This is a much faster process than accurate weighing, and would doubtless give as good results as the mints in question were concerned to achieve.

WEIGHT GRAPH OF EUBOIAN LEAGUE MEDIUM BRONZE:
VEILED HEAD / BUTTING BULL



This table gives the weights of 157 coins from hoards 2, 4, and 5, omitting heavily oxidized specimens.

EUBOIAN LEAGUE			ERETRIA		CHALKIS
Large 6.0-8.0 gms.	Medium 3.5-5.5 gms.	Small under 3 gms.	Medium 3.5-5.5 gms.	Small under 3 gms.	Small under 3 gms.
Cow lying 1. *					
2 bunches *	Cow standing 1, *	Cow standing 1, *			
	2 bunches *	1 bunch *			
AAE	AI	AI	NO		
EY			AE		
ME	ME				
			(OR)		
IE	IE				
ΣT	ΣT		AR)		
TI		TI (?)			
	Cow lying 1. 2 bunches Demarchos	Cow standing r. 2 bunches names ?	(Magistrate silver) Cow lying r. Mantidoros	Facing head eagle r.	Similar eagle r.
	Cow lying r. 2 bunches Satyros				

194	Pappadakis hoard	Veiled head butting cow star leaf (K) trident wreath trident below trident r. below wheat ear X below W below wheat grain palm branch	Cow standing r. 1 bunch no symbol club wreath sword? cornucopia	Veiled head butting cow		(new silver with veiled head?)	194
c. 180						Head r.; eagle r. XAA below trident star dolphin palm branch grapes	c. 180
	Newell's hoard Wallace 2			Veiled head Cow lying l. Aristonikos		XAA above thunderbolt wing wheat stalk amphora club caduceus	
	Wallace 1 & 3			Lysandros Alexippos Biottos Zoilos			
c. 168							c. 168

V. THE CATALOGUE

The coins are listed according to weight under the various die combinations; for the relations of these see the die diagrams in the chapter on the silver issues. Each die combination is given a serial number. Obverse dies are indicated by Roman numerals, reverse by Arabic. The weight is first given in grains, then, in brackets, in grammes. The positions are indicated as follows:

↑c means that the obverse axis was taken through the top of the head and the center of the neck.

↑f means that the obverse axis was taken through the crown of the head and the front of the neck.

↑n means that the obverse axis was taken through the forehead and the nape of the neck.

↑c-f or ↑c-n indicates positions between ↑c and ↑f or ↑c and ↑n.

↑c? ↑f? or ↑n? means that the position was guessed at from a cast or photograph.

↑, ↖ or ↗ means that the die position has been published or reported in that manner. I have also used ↖ and ↗ where the dies of the group as a whole are completely irregular.

For other positions the arrows have been used in the usual manner. The few abbreviations in the names of museums, dealers, etc., should be intelligible—a list of the museums will be found in the preface.

THE CATALOGUE

(Coins marked with an asterisk are illustrated on the plates)

DIDRACHMS OF AIGINETIC WEIGHT

Number of coins listed here – 69

Group 1. Head on rev. 411/10 B.C.

- | | | |
|----|-----------------------|---|
| 1. | I-1: 188.5 (12.21)↑ | Spink's <i>Num. Circ.</i> Aug. 1951, 47025.
From Hoard 3, found in 1951. |
| | *185.6 (12.03)↗ | Wallace EL 269. From 1951 hoard. |
| | 185.2 (12.00) | Feuardent, June 1913, 205. (Hirsch
xiii, 1905, 1840). |
| | 184.0 (11.92)→ | British Museum, 1906. |
| | 175.1 (11.35)↑ | Wallace EL 1. Found in southern
Euboia about 1936. |
| 2. | II-1: 185.0 (11.99)→ | in trade, Athens, 1952.
From 1951 hoard. |
| | 183.2 (11.87) | Jameson 1176, pl. lx, 1176. |
| | *182.0 (11.79)↘ | Spink's <i>NC</i> 1951, 48262.
From 1951 hoard. |
| | no weight | in trade, Athens, 1953. |
| 3. | III-1: 188.7 (12.23) | in trade, Athens, 1952.
From 1951 hoard. |
| | 187.5 (12.15)↘ | in trade, Athens, 1952.
From 1951 hoard. |
| | 186.7 (12.09)← | in trade, Athens, 1952.
From 1951 hoard. |
| | 186.3 (12.07)↘ | Lockett Coll. 1777. (Naville xiv, 1929,
250; Naville i (Pozzi) 1921, 1495). |
| | *185.0 (11.99)↓ | Spink, Oct. 1951. From 1951 hoard. |
| | 184.3 (11.94)← | Paris, Cab. des Méd. Babelon II.3,
168 and III.3, cxcvii, 17. Pub-
lished in <i>Abh. Bav. Ak.</i> xviii (1890)
535; pl. I, 19. |
| | 167.5 (10.85) | Hirsch xxv, 1909, 910. |
| 4. | III-2: 188.6 (12.22)↑ | in trade, New York, 1951.
From 1951 hoard. |
| | 188.4 (12.21)→ | McClellan 5703. Pl. 205,5. |
| | 188.0 (12.18)↙ | British Museum, 1952, From 1951
hoard. Phot. in <i>B. M. Quarterly</i>
(June 1953) pl. xv. 5. |
| | *188.0 (12.18)↓ | Spink's <i>NC</i> , Jan. 1952, 42 (?).
From 1951 hoard. |

186.9 (12.17)↗	in trade, New York, 1951. From 1951 hoard.
185.8 (12.04)→	Wallace EL 270. From 1951 hoard.
184.3 (11.94)↘	Munich. (Hirsch xxi, 1908, 1586).
183.3 (11.88)↑	Paris, Cab. des Méd. Babelon II.3, 169 and III.3, pl. cxcvii, 18: "11.92." (Hirsch xviii, 1907, 2365).
178.4 (11.56)↘	in the Eretria hoard of 1937.
no weight	in trade, Athens, 1951.
no weight	in a private coll. in U.S.A.

Group 2. Head on obv. About 405/4 B.C.

5.	IV-3:	188.7 (12.23)↘	in trade, Athens, 1952. From 1951 hoard.
		186.3 (12.07)←	in trade, Athens, 1952. From 1951 hoard.
		178.1 (11.54)↙	Wallace EL 2. Said to have been found at Karystos about 1935.
		176.3 (11.42)↘	in trade, New York, 1952. (Hirsch xviii, 1907, 2366).
		*176.0 (11.40)↘	British Museum, 1906.
		167.1 (10.83)→	in trade, Athens, 1952.
6.	IV-4:	*184.7 (11.97)↗	Comte Chandon de Briailles, 1300.
		176.7 (11.45)↙	Newell Coll., ANS. Secured in 1923.
		173.5 (11.24)←	Wallace EL 259. Secured in 1952.
7.	IV-5:	188.4 (12.21)↑	in trade, Athens, 1952. From 1951 hoard.
		187.8 (12.17)↗	in trade, London, 1952. From 1951 hoard.
		*185.0 (11.99)↘	Spink's NC, Oct. 1951, 48264. From 1951 hoard.
		182.5 (11.82)↙	in trade, London, 1952. From 1951 hoard.
		181.5 (11.76)→?	Kricheldorf, Stuttgart, Oct. 15, 1955, 339.
		178.5 (11.57)→	Wallace EL 89. Secured in 1948.
		176.1 (11.41)	Naville xii, 1926, 1395. (Hess, 1918, 453; Hirsch xxv, 1909, 911).
		176.0 (11.39)↑	Copenhagen SNG 475. (Hirsch xiii, 1905, 1841, where weight is given as 11.40).
		no weight	in private possession in Athens (phot. seen).

8. IV-6: *187.0 (12.18) ↘ Spink's NC, Oct. 1951, 48263.
From 1951 hoard.
177.5 (11.50) ↘ in the Eretria hoard of 1937.
174.4 (11.30) ↙ in the Eretria hoard of 1937.
9. V-3: 177.5 (11.50) ← Paris, Cab. des Méd. Babelon II.3, 170 and III.3, pl. cxcvii, 19 – "11.45." (Hirsch xxi, 1908, 1587, from Weber Coll.)
no weight in a private coll. in U.S.A.
10. V-4: *185.7 (12.03) ↘ Wallace EL 177. Secured in 1950.
185.2 (12.00) ↙ Ward Coll. 492, Met. Mus., New York.
185.2 (12.00) ↑ in trade, New York, 1951.
From 1951 hoard.
185.0 (11.99) ↘ in trade, London, 1951.
From 1951 hoard.
183.5 (11.89) ↙ British Museum, 1952. From 1951 hoard. Phot. of rev. only in *B. M. Quarterly* (June 1953) pl. xv. 7.
182.6 (11.83) Weber Coll. 3389. (W. T. Ready Sale, 1892; see NC 1892, p. 191 and pl. xv, 12).
182.0 (11.79) Naville iv, 1922, 548.
177.2 (11.48) ↙ in trade, Athens, 1952.
174.4 (11.30) ↙ found at Chalkis; shown to Num. Mus. Athens.
11. V-5: 186.7 (12.10) ← British Museum, 1952.
From 1951 hoard.
*185.0 (11.99) ↘ Spink's NC, Oct. 1951, 48265.
From 1951 hoard.
12. V-6: 188.3 (12.20) ↗ in trade, Athens, 1952.
From 1951 hoard. EF/FDC.
183.2 (11.87) → Jameson 2077; Sup. I, pl. cxi.
(Naville i [Pozzi], 1921, 1496).
*180.4 (11.69) ↗ Comte Chandon de Briailles, 216.
179.2 (11.61) ↗ Wallace EL 93. (Cahn 60, 1928, 547; Hirsch xiii, 1905, 1842).
13. V-7: 182.4 (11.82) ↙ Schulman, May 1938, 134.
*177.9 (11.53) ↙ Wallace EL 3. From Nusbaum Coll., Zurich.
IV-?: 173.6 (11.25) ↗ in trade, Athens, 1952.
?-?: 177.5 (11.50) Glendining, 1931, 1063. No photograph.

TETRADRACHMS

Number of coins listed here – 41

Group 1. With EYB. about 400 B.C.

- | | | | |
|-----|--------|-----------------|--|
| 14. | VI-8: | 256.2 (16.60) | in trade, Athens, 1950. |
| | | 256.2 (16.60)↓ | From hoard 11. |
| | | *254.8 (16.51) | in the Eretria hoard of 1937. |
| | | 253.9 (16.45)→ | Naville xvi, 1933, 1180. |
| | | 253.9 (16.45)→ | in the Eretria hoard of 1937. |
| | | 253.5 (16.43)↘ | in the Eretria hoard of 1937. |
| | | 253.4 (16.42)↙ | in trade, Athens, 1952. |
| | | | Münzen u. Medaillen, Basel, Auction 8, 1949, 820. |
| | | *252.4 (16.36)→ | Newell Coll., ANS. Secured in 1928. |
| | | 250.3 (16.22)↑ | in the Eretria hoard of 1937. |
| | | 249.7 (16.18)↙ | in trade, Athens, 1952. |
| | | 249.4 (16.16)↘ | Wallace EL 4. Said to have been found at Karystos about 1935. |
| | | 248.5 (16.10)↙ | in trade, Athens, 1952. |
| | | 213.7 (13.85)↓ | Karystos hoard of c. 1950, no. 1: NNM 124, p. 12—cleaned electrolytically. |
| 15. | VII-8: | 255.4 (16.55)↗ | in the Eretria hoard of 1937. |
| | | 254.6 (16.50)↑ | in the Eretria hoard of 1937. |
| | | 253.5 (16.43)→ | Wallace EL 507. Secured in 1954. |
| | | *251.9 (16.32)→ | Newell Coll., ANS. Secured in 1928. |
| | | 250.6 (16.24)↘ | in trade, Athens, 1952. |
| | | 248.5 (16.10)↘ | formerly in Berlin. Photos. in <i>Abh. Bav. Ak.</i> xviii, pl. 1, and Babelon III.3, pl. cxcvii, 20. |
| | | *246.3 (15.96)← | British Museum, 1901. NC 1902, p. 321. |
| | | no weight | in private possession in Athens, 1950. |

Group 2. With EY-BOI. about 395 B.C.

16. VIII-9: 263.4 (17.07)↗ Jameson 1177.
262.4 (17.00)↓ Paris, Cab. des Méd. Babelon II.3,
172 and III.3, pl. cxcvii, 22.
(Hirsch xviii, 1907, 2367).
*261.6 (16.95)↓ Newell Coll., ANS. (Feuarent,
June 9, 1913; Hirsch xxix, 1910,
421: "17.00").
261.3 (16.93) Hirsch xxvi, 1910, 502.

- 260.7 (16.89) Naville xvi, 1933, 1179.
 259.8 (16.83)↓ Wallace EL 25. (Vicomte de Sartiges 257; Hirsch xxv, 1909, 912).
 256.0 (16.59)↘ McClean 5704.
 253.9 (16.45)↓ British Museum, 1903. NC 1904, p. 297; *Coins of the Greeks* p. 40, pl. 23.
 253.6 (16.43)↘ Copenhagen SNG 476. Secured in 1907.
 252.2 (16.34)↓? Naville x, 1925, 558. (Naville vi, 1924, 1072; Egger xlv, 1913, 505; Hirsch xxi, 1908, 1588).
 246.9 (16.00)↗ Found at Chalkis. Shown to Num. Mus., Athens, about 1943.
17. IX-9: *259.4 (16.81) Naville i (Pozzi), 1921, 1497.
 255.4 (16.55)↘ in the Eretria hoard of 1937.
 254.0 (16.46) Rhode Island School of Design, 143. (Hess, Feb. 1934, 321).
 253.0 (16.39)↘ Sotheby, Dec. 1924, 116.
 no weight ↗ Found at Aliveri in Euboea since 1930; shown to Num. Mus., Athens, about 1943.
 no weight in private possession in Athens (phot. seen).
18. X-9: *264.5 (17.14)↑? Locker Lampson 204.
 257.9 (16.71) Naville v, June 1923, 1944. (Hirsch xxxii, 1912, 485).
 253.8 (16.45) formerly in Berlin. See H. Dressel in *ZN* 21 (1899) p. 215; Regling in *Die Antike Münze als Kunstwerk*, pl. xxi; and Babelon, III.3, pl. cxcvii, 21. (Hoffman, May 1890, 452).

DRACHMS OF ATTIC WEIGHT

Number listed here – 35

Group 1. With EY or EYB. About 400 B.C.

19. XI-10: *63.5 (4.11)↓ Newell Coll., ANS, New York.
 Secured in 1910.
 58.0 (3.76)↓ Hart Coll. 1, Blackburn Museum, England.

20. XII-11: *no weight
no weight Feuardent, 1913, 221.
Bourgey, Dec. 5, 1932, 173.
21. XIII-11: *63.3 (4.10)↑ Fitzwilliam Museum 2979, Cam-
bridge, England.
62.8 (4.07)↑ Lockett Coll. SNG 1778. (Naville I,
Pozzi, 1498).
22. XIV-12: 64.8 (4.20) Hirsch xxi, 1912, 298.
63.6 (4.12)↑ British Museum, 1949, Mavrogordato
Bequest 391.
63.3 (4.10)↑ Vienna.
*60.7 (3.93)↘ Newell Coll., ANS. Secured in 1910.
*58.2 (3.77)↘ Wallace EL 271. From hoard 4.
56.3 (3.65)↙ Wallace EL 112. Secured in 1949.
no weight Sotheby, July 1921, 267.
23. XV-12: *61.7 (4.00)↘ Newell Coll., ANS. Secured in 1910.
24. XV-13: *58.5 (3.79)← Ashmolean Museum, Oxford.
57.4 (3.72)↑c Wallace EL 56. Secured in 1946.
25. XV-13a: *62.2 (4.03)↗ Wallace EL 512. See note on p. 84.
26. XVI-14: 64.6 (4.19)↓ Paris, Cab. des Méd. Babelon II.3,
174 and III.3, pl. cxcvii, 24.
*61.2 (3.97)↓ BM *Central Greece* 2, pl. xvii, 2.
*60.3 (3.91)↘ Wallace EL 245. Secured in 1952.
27. XVI-15: 64.5 (4.18)↙ Comte Chandon de Briailles 1194.
(Weber 3390; Naville iv, 1922, 549).
62.4 (4.04)↘ BM *Central Greece* 4.
*60.4 (3.91)→ BM *Central Greece* 5.
58.6 (3.80)↑c Wallace EL 32. Secured in 1945.
28. XVII-15: *62.9 (4.08)→ BM *Central Greece* 3, pl. xvii, 3.
*60.0 (3.89)→ Wallace EL 246. Secured in 1952.
29. XVIII-16: 65.0 (4.21)↓ Paris, Cab. des Méd. Babelon II.3, 173
and III.3, pl. cxcvii, 23, where the
B is called "un symbole incertain."
*63.8 (4.13)↙ Copenhagen SNG 477. From Held-
reich, 1872.
62.9 (4.08) Imhoof-Blumer's cast coll., Winter-
thur.
30. XVIII-17: *59.4 (3.85)↓ Wallace EL 55. Secured in 1946.

Group 2. With EYB-OI. About 395 B.C.

31. XIX-18: *56.8 (3.68)↗ Newell Coll., ANS. Secured in 1909.

32. XX-18: 61.3 (3.97)→ BM *Central Greece* 1, pl. xvii, 1.
*60.2 (3.90)↑ Vienna.
33. XXI-18: *61.9 (4.01)→ Wallace EL 71. Secured in 1947.
61.9 (4.01) Naville v, 1923, 1945.

DRACHMS IN HIGH RELIEF

Number listed here – 12

Date – about 357 B.C.?

41. XXVIII-24: *50.9 (3.30)↑c Wallace EL 273. From hoard 4. Rev.
50.3 (3.26)↘ not certain.
Sweet Briar College, Virginia.
42. XXVIII-25: 52.5 (3.40)↗ Wallace EL 16. Secured in 1941.
*51.0 (3.30)↘ Wallace EL 272. From hoard 4.
45.5 (2.95)↑c Wallace EL 247. Secured in 1952.
43. XXIX-25: *54.2 (3.51)↘ Wallace EL 54. Secured in 1946.
50.6 (3.28)↘ Dr. J. S. Wilkinson, Toronto.
44. XXIX-26: *56.5 (3.66)↘ BM *Central Greece* 7, pl. xvii, 5.
52.0 (3.37)↘ Wallace EL 97. From hoard 10.
45. XXIX-27: *52.8 (3.42)↗ Wallace EL 81. Secured in 1948.
50.1 (3.25)↑ Munich, Staatliche Münzsammlung.
Neither die is certain.
42.0 (2.73)↗ Wallace EL 274. From hoard 4. Obv.
not certain.

DRACHMS WITHOUT SYMBOL

Number listed here – 153

Date – about 340 B.C.

46. XXX-28: *48.6 (3.15)↑c-f Wallace EL 278. From hoard 4.
47. XXXI-28: *58.2 (3.77) Locker Lampson 205 (Weber 3391;
from A. N. Meletopoulos in 1888).
55.4 (3.59)↑c-f in the Eretria hoard of 1937.
53.4 (3.46)↑c-f Ashmolean Museum, Oxford.
(Evans Coll.)
47.8 (3.10)↑c-f Wallace EL 280. From hoard 4.
47.1 (3.05)↑f Wallace EL 276. From hoard 4.
46.5 (3.01)↑f Wallace EL 277. From hoard 4.
no weight in trade, Athens, 1954.
From hoard 15.

48. XXXI-29: 57.9 (3.75)↑c-f in the Eretria hoard of 1937.
 *56.3 (3.65)↑c-f Wallace EL 60. From hoard 8.
 55.8 (3.61)↑c-f in the Eretria hoard of 1937.
 55.6 (3.60)↑ Copenhagen SNG 482 (see refs. ad loc.).
 53.0 (3.43)↑ Royal Coin Cab., State Hist. Mus., Stockholm.
 44.8 (2.90)↑c-f Wallace EL 289. From hoard 4.
 35.5 (2.30)↑f Wallace EL 275. From hoard 4.
 no weight in trade, Athens, 1954.
 From hoard 15.
49. XXXI-30: *56.9 (3.69)↑c-f Wallace EL 265. Secured in 1952.
 56.3 (3.65)↑f Wallace EL 132. From hoard 12.
50. XXXI-31: 58.0 (3.76)↑c-f in the Eretria hoard of 1937.
 57.1 (3.70)↑c in the Eretria hoard of 1937.
 55.2 (3.58)↑c in the Eretria hoard of 1937.
 no weight in the Eretria hoard of 1937.
 Incrusted.
 no weight in trade, Athens, 1954.
 From hoard 15.
51. XXXI-32: 58.6 (3.80) Schlessinger xiii, Feb. 1935, 881.
 57.9 (3.75) Hirsch xx, 1907, 299.
 57.2 (3.71)↑c Professor D. M. Robinson.
 56.7 (3.67)↑c-f in the Eretria hoard of 1937.
 56.7 (3.67)↑c in the Eretria hoard of 1937.
 56.0 (3.63)↑c-f in the Eretria hoard of 1937.
 *55.6 (3.60)↑c Wallace EL 131. From hoard 12.
52. XXXII-32: *56.3 (3.65)↑f Newell Coll., ANS, New York
 (Schulman 1913, 2339).
53. XXXII-33: 58.5 (3.79)↑c Boston Mus. of Fine Art 95.133
 (Warren 790).
 58.0 (3.76)↑ de Nanteuil 904 (Pl. lv).
 57.1 (3.70)↑c-f in the Eretria hoard of 1937.
 56.7 (3.67)↑c-f in the Eretria hoard of 1937.
 *56.5 (3.66)↑ Professor E. Zygman, New York.
 55.0 (3.56)↑c-f in the Eretria hoard of 1937.
 54.8 (3.55)↑c BM *Central Greece* 9.
 47.4 (3.07)↑ Professor D. M. Robinson.
 From hoard 4, no. 71.
 37.8 (2.45)↑c-f Wallace EL 282. From hoard 4.
 Broken.

54. XXXII-34: 58.0 (3.76) Naville xiv 1929, 251 (Naville vi 1924, 1073, from Bement Coll. Merzbacher 1909, 2911).
 *55.2 (3.58)↑f Wallace EL 130. From hoard 12.
 54.8 (3.55)↑f Wallace EL 114. From hoard 9.
55. XXXII-35: 58.6 (3.80)↑ Rhode Island School of Design 144.
 56.8 (3.68)↑c-f in the Eretria hoard of 1937.
 *56.3 (3.65)↑c Wallace EL 128. From hoard 12.
 56.0 (3.63)↑c in the Eretria hoard of 1937.
 55.9 (3.62)↑f Wallace EL 39. Secured in 1946.
 55.7 (3.61)↑ Mr. Sydney P. Noe, New York.
 55.2 (3.58)↑c Wallace EL 129. From hoard 12.
 54.4 (3.53)↑c BM 1949, Mavrogordato Bequest 390.
 51.7 (3.35)↑ Professor D. M. Robinson.
 From hoard 4, no. 70.
 45.9 (2.97)↑c-f Wallace EL 281. From hoard 4.
 42.3 (2.74)↑c Wallace EL 279. From hoard 4.
 Broken.
 no weight ↑f Mme. Euelpides Athens.
56. XXXIII-35: 51.2 (3.32)↑ Professor D. M. Robinson.
 From hoard 4, no. 69.
57. XXXIV-35: *54.8 (3.55)↑c Wallace EL 252. From hoard 5.
58. XXXV-34: 57.4 (3.72)↑f in the Eretria hoard of 1937.
 57.2 (3.71)↑c-f in the Eretria hoard of 1937.
 *55.4 (3.59)↑f Wallace EL 133. From hoard 12.
 53.3 (3.45)↑f Wallace EL 134. From hoard 12.
 51.7 (3.35)↑ Professor D. M. Robinson.
 From hoard 4, no. 68.
59. XXXV-35: 58.8 (3.81) Paris, Cab. des Méd. Babelon II.3, 180 and III.3, cxvii, 2.
 57.6 (3.73)↑c-f in the Eretria hoard of 1937.
 56.9 (3.69)↑c-f in the Eretria hoard of 1937.
 *56.6 (3.65)↑c-f Wallace EL 10. Secured in 1935.
 no weight in trade, Athens, 1954.
 From hoard 15.
60. XXXV-36: 58.8 (3.81)↑c-f Imhoof-Blumer's cast coll. at Winterthur, 5.
 58.4 (3.78)↑ A. S. Dewing Coll., 362Fa, Boston.
 (From Robinson 1941, from H. Chapman 1916. Hirsch xii, 1905, 1845).

- 58.2 (3.77)↑ Vienna (Hirsch xxi, 1908, 1589.
From Weber Coll.).
- *58.0 (3.76)↑c-f Wallace EL 17. Secured in 1941.
57.1 (3.70)↑c-f in the Eretria hoard of 1937.
57.1 (3.70)↑c-f Wallace EL 21. From Hirsch 1943.
(Naville xv, 1930, 669).
- 56.5 (3.66)↑c-f in the Eretria hoard of 1937.
56.0 (3.63)↑c in the Eretria hoard of 1937.
56.0 (3.63)↑c in the Eretria hoard of 1937.
55.9 (3.62)↑f in the Eretria hoard of 1937.
55.9 (3.62)↑c-f in the Eretria hoard of 1937.
55.4 (3.59)↑c-f Wallace EL 95. Secured in 1949.
55.4 (3.59)↑c-f in the Eretria hoard of 1937.
55.2 (3.58)↑c-f in the Eretria hoard of 1937.
55.2 (3.58)↑c-f in the Eretria hoard of 1937.
55.1 (3.57)↑c-f Wallace EL 153. From hoard 11.
55.0 (3.56)↑f in the Eretria hoard of 1937.
54.8 (3.55)↑f Wallace EL 254. From hoard 5.
51.6 (3.34)↑f Wallace EL 221. From hoard 13.
49.8 (3.23)↑c-f Wallace EL 286. From hoard 4.
Broken.
- 47.6 (3.08)↑c-f BM *Central Greece* 10. Very much
worn.
- no weight in trade, Athens, 1954.
From hoard 15.
- no weight in a private coll. in U.S.A.
61. XXXV-37: *57.9 (3.75)↑f Newell Coll., ANS, New York.
57.4 (3.72)↑c in the Eretria hoard of 1937.
56.7 (3.67)↑f Wallace EL 58. Secured in 1947.
54.3 (3.52)↑f Wallace EL 24. Secured in 1943.
49.7 (3.22)↑f Wallace EL 98. From hoard 10.
49.1 (3.18)↑f Wallace EL 287. From hoard 4.
44.6 (2.89)↑f Wallace EL 288. From hoard 4.
Broken.
- no weight ↘ coin shown to Nat. Num. Mus.,
Athens.
- no weight ↘ coin shown to Nat. Num. Mus.,
Athens.
- no weight in trade, Athens, 1954.
From hoard 15.
62. XXXV-38: 58.6 (3.80)↑f? Hirsch xiv, 1905, 369.
58.6 (3.80)↑f? Hirsch xx, 1907, 298.
(Hirsch xiii, 1905, 1843).

- 57.6 (3.73)↑f in the Eretria hoard of 1937.
 57.4 (3.72)↑f in the Eretria hoard of 1937.
 57.4 (3.72)↑f? Ratto, 1909, 2452.
 57.2 (3.71)↑c-f in the Eretria hoard of 1937.
 56.7 (3.67)↑f in the Eretria hoard of 1937.
 *56.3 (3.65)↑f Wallace EL 59. Secured in 1947.
 56.0 (3.63)↑f in private possession, Athens.
 From hoard 5.
 55.9 (3.62)↑c-f in the Eretria hoard of 1937.
 55.2 (3.58)↑f in the Eretria hoard of 1937.
 55.1 (3.57)↑f in the Eretria hoard of 1937.
 54.8 (3.55)↑f Wallace EL 127. From hoard 12.
 54.6 (3.54)↑f in the Eretria hoard of 1937.
 50.9 (3.30)↑ Professor D. M. Robinson.
 Hoard 4, no. 66.
 50.9 (3.30)↑c-f Wallace EL 285. From hoard 4.
 no weight ↑f in trade, Athens, 1952.
 63. XXXV-39: 58.8 (3.81)↘ McClean 5705, pl. 205, 7.
 58.2 (3.77) ↘ Schulman lxii, 1914, 288.
 From Ordones Coll.
 57.9 (3.75)↘ in the Eretria hoard of 1937.
 57.6 (3.73)↘ Wallace EL 154. From hoard 11.
 57.2 (3.71)↘ in the Eretria hoard of 1937.
 57.1 (3.70) ↘ Ciani, 1935, 134.
 From Grandprey Coll.
 56.8 (3.68)↘ in the Eretria hoard of 1937.
 56.8 (3.68)↑ de Nanteuil 905.
 (Feuardent, May 1914, 226).
 56.5 (3.66)↘ Wallace EL 61. From hoard 8.
 56.0 (3.63)↘ in private possession, Athens.
 From hoard 5.
 *55.7 (3.61)↘ BM *Central Greece* 8, pl. xvii, 6.
 55.7 (3.61)↘ Wallace EL 113. From hoard 9.
 55.1 (3.57)↘ Wallace EL 27. Secured in 1944.
 55.1 (3.57)↘ Wallace EL 62. From hoard 8.
 52.4 (3.40)↘ Wallace EL 222. From hoard 13.
 52.3 (3.39) ↘ Glendining 1927, 618.
 50.2 (3.25)↑ Professor D. M. Robinson.
 Hoard 4, no. 67.
 50.1 (3.24)↘ Wallace EL 223. From hoard 13.
 49.1 (3.18)↘ Wallace EL 224. From hoard 13.
 47.8 (3.10)↘ Wallace EL 283. From hoard 4.
 47.7 (3.09)↘ Wallace EL 284. From hoard 4.
 44.9 (2.91)↘ Wallace EL 155. From hoard 11.

10*

	36.6 (2.37)↖	Wallace EL 31. (Naville v, 1923, 1947.) Broken.
	no weight	Platt March 1922, 503.
	no weight ↖	From Luneau Coll.
?	no weight	in trade, Athens, 1952.
34:	no weight	in trade, Athens, 1954.
		From hoard 15. No phot. of obv.
?	58.4 (3.78)	Hirsch xiii, 1905, 1844. No phot.
?	58.2 (3.77)	Hirsch xiii, 1905, 1846. No phot.
	57.1 (3.70)	Spink. Dec. 1937, 67973.
	52.6 (3.41)↑c-f	in the Eretria hoard of 1937.
		Incrusted.
	52.2 (3.38)	Hunterian Coll. Eretria 1. No phot.
		Pierced.
	38.6 (2.50)	Braunschweiger Münzverkehr 2, 1929, 566. No phot. Called a hemi-drachm.
	no weight	Schulman, March 1936, 84. No phot.
	no weight	Naville xiii, 1928, 739. No phot.
	no weight	Naville xii, 1926, 1399. No phot.
Suspect:	*53.4 (3.46)↑n	Newell Coll., ANS, New York.
		Secured in 1910.

DRACHMS WITH GRAPES SYMBOL

Number listed here – 83

Date – about 340–338 B.C.

64.	XXXVI-40:	*57.2 (3.71)↑f	Wallace EL 82. Secured in 1948.
		56.5 (3.66)↑f	Wallace EL 263. Secured in 1952.
		55.9 (3.62)↑f	in private possession, Athens.
			From hoard 5.
		55.4 (3.59)↑f	Wallace EL 68. From hoard 8.
		54.8 (3.55)↑c	in private possession, Athens.
			From hoard 5.
		54.3 (3.51)↑f	in private possession, Athens.
			From hoard 5.
		51.6 (3.34)↑f	Wallace EL 99. From hoard 10.
		46.9 (3.04)↑f	Wallace EL 302. From hoard 4.
		45.7 (2.96)↑c-f	Wallace EL 301. From hoard 4.
		no weight	Imhoof-Blumer's cast coll. at Winterthur, 7.
		no weight ↑f	Mrs. F. R. Summers, Los Angeles.
		no weight	in trade, Athens, 1954. With coins of hoard 15, but little worn.

65. XXXVI-41: 59.4 (3.85) Rosenberg lxii, 1932, 402. There is a
cast of this (?) coin in Imhoof-
Blumer's cast coll. at Winterthur.
58.8 (3.81) Ratto 1929, 296.
From Rev. E. Rogers Coll.
*57.9 (3.75)↑f ANS, New York (Neville xvi, 1933,
1181, and xv, 1930, 670. Hirsch
xxv, 1909, 914).
56.9 (3.69)↑c-f in the Eretria hoard of 1937.
56.8 (3.68)↑f Wallace EL 267. Secured in 1952.
56.0 (3.63)↑c-f Wallace EL 248. Secured in 1952.
55.8 (3.61)↑c in the Eretria hoard of 1937.
49.9 (3.23)↑c-f Wallace EL 295. From hoard 4.
*49.4 (3.20)↑c-f Wallace EL 291. From hoard 4.
48.0 (3.11)↑c-f Wallace EL 294. From hoard 4.
47.8 (3.10)↑c Wallace EL 220. From hoard 13.
46.9 (3.04)↑c-f Wallace EL 293. From hoard 4.
44.2 (2.86)↑c-f Wallace EL 292. From hoard 4.
no weight Rollin and Feuadent, May 1910, 391.
66. XXXVI-42: 57.4 (3.72)↑ Ward Coll. 493, Met. Mus., New York.
56.2 (3.64)↑f in the Eretria hoard of 1937.
56.0 (3.63)↑c-f in the Eretria hoard of 1937.
55.9 (3.62)↑f in the Eretria hoard of 1937.
48.6 (3.15)↑c-f Wallace EL 297. From hoard 4.
47.1 (3.05)↑c-f Wallace EL 298. From hoard 4.
46.6 (3.02)↑c-f Wallace EL 299. From hoard 4.
*45.5 (2.95)↑c Wallace EL 296. From hoard 4.
no weight Paris, Cab. des Méd. Babelon II.3,
181; pl. 198, 3.
no weight in trade, Athens, 1954.
From hoard 15.
67. XXXVI-43: 58.2 (3.77) Hamburger, May 1929, 227.
*56.0 (3.63)↑c-f Wallace EL 126. From hoard 12.
55.0 (3.56)↑c in the Eretria hoard of 1937.
50.9 (3.30)↑c-f Wallace EL 152. From hoard 11.
43.2 (2.80)↑c-f Wallace EL 300. From hoard 4.
Broken.
68. XXXVI-44: 58.6 (3.80)↑ Copenhagen SNG 485.
57.9 (3.75) Hirsch xix, 1907, 376.
57.4 (3.72)↑c-f in the Eretria hoard of 1937.
56.5 (3.66)↑c in the Eretria hoard of 1937.
56.3 (3.65)↑c-f in the Eretria hoard of 1937.
56.3 (3.65)↑c in the Eretria hoard of 1937.

- *56.1 (3.64)↑c-f Wallace EL 5. Secured in 1935.
 55.6 (3.60)↑c-f Wallace EL 262. Secured in 1952.
 55.1 (3.57) Naville xii, 1926, 1396.
 55.1 (3.57)↑ Paris, Cab. des Méd.
 55.1 (3.57)↑c-f in private possession, Athens.
 From hoard 5.
 54.6 (3.54)↑c-f Wallace EL 35. Secured in 1945.
 52.1 (3.38)↑c-f Wallace EL 290. From hoard 4.
 50.4 (3.26)↑c-f Wallace EL 219. From hoard 13.
 48.6 (3.15)↑ Professor D. M. Robinson.
 From hoard 4, no. 65.
 46.5 (3.01)↑c-f BM *Central Greece* 12. Holed.
69. XXXVI-45: *59.0 (3.82) Sotheby, April 24, 1907, 131.
70. XXXVI-46: 58.6 (3.80)↑c-f Col. de Laval, Stockholm. (Schulman lxii, 1914, 227, from Ordones Coll.)
- 58.5 (3.79) Sotheby, May 28, 1900, 280.
 *56.9 (3.69)↑c-f Wallace EL 264. Secured in 1952.
 56.8 (3.68)↑c-f in the Eretria hoard of 1937.
 56.7 (3.67)↑c in the Eretria hoard of 1937.
 56.5 (3.66)↑c-f Wallace EL 174. Secured in 1950.
 56.3 (3.65)↑c-f in trade, Athens, 1952.
 54.3 (3.52)↑c L. Meletopoulos, Athens.
 48.8 (3.16)↑c Wallace EL 305. From hoard 4.
 45.1 (2.92)↑c-f Wallace EL 306. From hoard 4.
 43.9 (2.84)↑c-f Wallace EL 303. From hoard 4.
 43.7 (2.83)↑c-f Wallace EL 304. From hoard 4.
 no weight Feuadent, Dec. 1919, 244.
 no weight ↑c-f in trade, Athens, 1952.
71. XXXVII-44: *41.6 (2.70)↑c-f Wallace EL 307. From hoard 4.
 Chipped.
72. XXXVII-45: 51.5 (3.33)↑f Wallace EL 125. From hoard 12.
 *45.9 (2.97)↑f Wallace EL 308. From hoard 4.
 45.5 (2.95)↑f Wallace EL 309. From hoard 4.
73. XXXVII-46: 56.4 (3.65)↑ Professor Saul Weinberg, Un. of Missouri.
- *49.5 (3.21)↑c Wallace EL 311. From hoard 4.
 47.1 (3.05)↑c Wallace EL 310. From hoard 4.
 no weight in trade, Athens, 1954.
 From hoard 15.
- ?-?: 55.5 (3.60) Spink, London, Dec. 1937, 67969.
 no weight Hirsch v, May 1901, 106.

58.0 (3.76) Glendining 4, April 1955, lot 376, no
phot.

DRACHMS WITH KANTHAROS SYMBOL

Number listed here – 300

Date – About 323–320 B.C.

74. XXXVIII-47: 60.8 (3.94)↑ Yale University.
 60.5 (3.92)↑c-f Wallace EL 118. Secured in 1949.
 59.4 (3.85)↑c-f Wallace EL 137. From hoard 12.
 59.1 (3.83)↑c in the Eretria hoard of 1937.
 59.0 (3.82)↑c in the Eretria hoard of 1937.
 59.0 (3.82)↑c-f in the Eretria hoard of 1937.
 58.4 (3.78)↑c-f Wallace EL 135. From hoard 12.
 58.4 (3.78)↑c-f in the Eretria hoard of 1937.
 58.4 (3.78)↑c-f in the Eretria hoard of 1937.
 57.9 (3.75)↑c-f in the Eretria hoard of 1937.
 57.9 (3.75)↑c Wallace EL 266. Secured in 1952.
 57.9 (3.75)↑c-f in private possession, Athens.
 From hoard 5.
 57.7 (3.74) Un. of Colorado. Secured in 1937.
 57.7 (3.74)↑f Wallace EL 182. Secured in 1951.
 57.7 (3.74)↑c in the Eretria hoard of 1937.
 57.4 (3.72)↑c in the Eretria hoard of 1937.
 57.3 (3.71)↑c in the Eretria hoard of 1937.
 57.1 (3.70)↑c-f in the Eretria hoard of 1937.
 57.1 (3.70)↑c Wallace EL 46. Secured in 1946.
 57.1 (3.70) Naville v, June 1923, 1949.
 56.9 (3.69)↑c-f L. Meletopoulos, Athens.
 56.9 (3.69) Naville xvi, July 1933, 1182 (symbol
 described as "Silenos").
 56.8 (3.68)↑c-f Wallace EL 38. Secured in 1946.
 56.8 (3.68)↑c in private possession, Athens.
 From hoard 5.
 56.7 (3.67)↑c-f in private possession, Athens.
 From hoard 5.
 56.7 (3.67)↑f in the Eretria hoard of 1937.
 56.5 (3.66)↑c-f in the Eretria hoard of 1937.
 56.3 (3.65)↑c-f in private possession, Athens.
 From hoard 5.
 56.3 (3.65)↑c-f in private possession, Athens.
 From hoard 5.
 56.3 (3.65)↑c-f in the Eretria hoard of 1937.
 *55.2 (3.58)↑c-f Wallace EL 26. Secured in 1944.

- 55.1 (3.57)↑c-f Wallace EL 156. From hoard 11.
 55.1 (3.57)↑c Wallace EL 312. From hoard 4.
 55.1 (3.57)↑c-f in private possession, Athens.
 From hoard 5.
- 54.8 (3.55)↑c-f Wallace EL 45. Secured in 1946.
 54.5 (3.53)↑c-f Wallace EL 239. From hoard 13.
 54.5 (3.53)↑f Wallace EL 181. Secured in 1951.
 54.0 (3.50)↑c-f Wallace EL 313. From hoard 4.
 54.0 (3.50)↑c-f Wallace EL 22. Secured in 1943.
 53.7 (3.48)↑c Wallace EL 314. From hoard 4.
 53.7 (3.48)↑c-f Wallace EL 207. From hoard 14.
 53.0 (3.43)↑c-f Wallace EL 315. From hoard 4.
 52.6 (3.41)↑ Professor D. M. Robinson.
 Hoard 4, no. 64.
- 52.6 (3.41)↑c-f Wallace EL 236. From hoard 13.
 52.3 (3.39)↑c Wallace EL 316. From hoard 4.
 52.3 (3.39)↑c-f Wallace EL 204. From hoard 14.
 52.2 (3.38)↑c-f Wallace EL 206. From hoard 14.
 50.9 (3.30)↑c-f Wallace EL 208. From hoard 14.
 50.5 (3.27)↑c-f Wallace EL 173. From hoard 11.
 49.4 (3.20)↑c-f Wallace EL 237. From hoard 13.
 49.3 (3.19)↑c-f Wallace EL 317. From hoard 4.
 49.0 (3.17)↑f Wallace EL 318. From hoard 4.
 48.4 (3.14)↑c-f Wallace EL 319. From hoard 4.
 47.8 (3.10)↑c Wallace EL 320. From hoard 4.
 47.0 (3.05)↑c-f Wallace EL 172. From hoard 11.
 47.0 (3.05)↑f Wallace EL 321. From hoard 4.
 46.9 (3.04)↑c-f Wallace EL 110. From hoard 10.
 46.7 (3.03)↑c-f Wallace EL 322. From hoard 4.
 45.1 (2.92)↑c-f Wallace EL 323. From hoard 4.
 no weight in the Eretria hoard of 1937.
 Incrusted.
- no weight in trade, Athens, 1954.
 From hoard 15.
- no weight in trade, Athens, 1954.
 From hoard 15.
- no weight in trade, Athens, 1954.
 From hoard 15.
- no weight in trade, Athens, 1954.
 From hoard 15.
- no weight in trade, Athens, 1954.
 From hoard 15.
- 75.XXXVIII-48: 60.8 (3.94)↑f in the Eretria hoard of 1937.
 60.8 (3.94)↑c-f in the Eretria hoard of 1937.

- *60.4 (3.91)↑ Ashmolean Museum, Oxford.
 60.0 (3.89)↑f Wallace EL 12. Secured in 1941.
 59.4 (3.85)↑c-f in the Eretria hoard of 1937.
 59.4 (3.85)↑c-f in the Eretria hoard of 1937.
 59.4 (3.85)↑c-f in the Eretria hoard of 1937.
 59.1 (3.83)↑f in the Eretria hoard of 1937.
 58.8 (3.81)↑c-f in the Eretria hoard of 1937.
 58.8 (3.81)↑c-f in the Eretria hoard of 1937.
 58.4 (3.78)↑c-f in the Eretria hoard of 1937.
 58.4 (3.78)↑c-f in the Eretria hoard of 1937.
 58.0 (3.76)↑c-f in the Eretria hoard of 1937.
 58.0 (3.76)↑ Professor D. M. Robinson.
 From hoard 4, no. 63.
 57.4 (3.72)↑c-f in the Eretria hoard of 1937.
 57.4 (3.72)↑f in the Eretria hoard of 1937.
 57.3 (3.71)↑f in the Eretria hoard of 1937.
 57.1 (3.70)↑c-f in the Eretria hoard of 1937.
 56.2 (3.64)↑f in the Eretria hoard of 1937.
 55.4 (3.59)↑f Wallace EL 157. From hoard 11.
 55.2 (3.58)↑f Wallace EL 171. From hoard 11.
 55.1 (3.57)↑c in the Eretria hoard of 1937.
 54.3 (3.52)↑c in the Eretria hoard of 1937.
 53.9 (3.49)↑c-f in the Eretria hoard of 1937.
 53.4 (3.46)↑c-f Wallace EL 386. From hoard 4.
 52.9 (3.43)↑c Wallace EL 328. From hoard 4.
 52.5 (3.40)↑c-f Wallace EL 329. From hoard 4.
 51.7 (3.35)↑f Wallace EL 205. From hoard 14.
 51.6 (3.34)↑ Professor D. M. Robinson.
 Hoard 4, no. 62.
 51.1 (3.31)↑c-f Wallace EL 325. From hoard 4.
 49.9 (3.23)↑c-f Wallace EL 330. From hoard 4.
 49.0 (3.17)↑f Wallace EL 162. From hoard 11.
 48.6 (3.15)↑f Wallace EL 326. From hoard 4.
 48.0 (3.11)↑f Wallace EL 324. From hoard 4.
 47.7 (3.09)↑c in the Eretria hoard of 1937.
 47.0 (3.05)↑f Wallace EL 332. From hoard 4.
 46.3 (3.00)↑c-f Wallace EL 331. From hoard 4.
 44.0 (2.85)↘ Wallace EL 327. From hoard 4.
 40.1 (2.60)↑c-f Wallace EL 108. From hoard 10.
 no weight ↑f Mme. Euelpides, Athens.
 no weight ↘ Mme. Euelpides, Athens.
 no weight ↑c-f in trade, Athens, 1952.
 no weight in trade, Athens, 1954.
 From hoard 15.

- | | | |
|-----------------|---------------------------------|---|
| | no weight | in trade, Athens, 1954.
From hoard 15. |
| | no weight | in trade, Athens, 1954.
From hoard 15. |
| | no weight | in trade, Athens, 1954.
From hoard 15. |
| | no weight | in trade, Athens, 1954.
From hoard 15. |
| 76. XXXVIII-49: | *59.1 (3.83)↑f
58.4 (3.78)↑f | Wallace EL 136. From hoard 12.
in private possession, Athens.
From hoard 5. |
| | 54.0 (3.50)↑f | Wallace EL 335. From hoard 4. |
| | 53.1 (3.44)↑f | Wallace EL 333. From hoard 4. |
| | 50.3 (3.26)↑f | Wallace EL 213. From hoard 14. |
| | 48.6 (3.15)↑f | Wallace EL 334. From hoard 4. |
| 77. XXXIX-50: | 59.9 (3.88)↑f | in private possession, Athens.
From hoard 5. |
| | 59.7 (3.87)↑f | Professor W. E. Caldwell, Un. of
N. Carolina. |
| | *59.5 (3.86)↑f | Wallace EL 124. Secured in 1950. |
| | 59.4 (3.85)↑f | Wallace EL 117. Secured in 1949. |
| | 58.7 (3.80)↑f | in the Eretria hoard of 1937. |
| | 58.0 (3.76)↑c-f | in the Eretria hoard of 1937. |
| | 57.9 (3.75)↑f | The Hague 3717. Holed. |
| | 56.8 (3.68)↑c-f | Wallace EL 20. Secured in 1942. |
| | 56.6 (3.67)↑c-f | Wallace EL 96. Secured in 1949. |
| | 56.6 (3.67)↑f | BM <i>Central Greece</i> 11. Holed. |
| | 55.6 (3.60) | Grabow xiv, July 1939, 381. |
| | 54.3 (3.52)↑f | Wallace EL 209. From hoard 14. |
| | 53.9 (3.49)↑c-f | Wallace EL 238. From hoard 13. |
| | 51.2 (3.32)↑c-f | Wallace EL 360. From hoard 4. |
| | 50.0 (3.24)↑c-f | Wallace EL 359. From hoard 4. |
| | 48.8 (3.16)↑c-f | Wallace EL 385. From hoard 4. |
| | 47.2 (3.06)↑f | Wallace EL 361. From hoard 4.
Broken. |
| | 41.6 (2.70)↑c-f | Wallace EL 362. From hoard 4.
Broken. |
| | no weight | in trade, Athens, 1954.
From hoard 15. |
| 78. XXXIX-51: | *49.1 (3.18)↑c | Wallace EL 363. From hoard 4. |
| 79. XL-50: | 59.9 (3.88)↑f | in the Eretria hoard of 1937. |
| | 59.4 (3.85)↑c | in the Eretria hoard of 1937. |

- *56.4 (3.65)↑f Wallace EL 366. From hoard 4.
 50.3 (3.26)↑c-f Wallace EL 369. From hoard 4.
 49.7 (3.22)↑f Wallace EL 370. From hoard 4.
 48.8 (3.16)↑c Wallace EL 367. From hoard 4.
 44.8 (2.90)↑f Wallace EL 368. From hoard 4.
80. XL-51: 60.2 (3.90)↑c-f Wallace EL 256. Secured in 1952.
 60.0 (3.89)↑c-f in the Eretria hoard of 1937.
 *59.4 (3.85)↑c-f Wallace EL 176. Secured in 1950.
 57.1 (3.70)↑ Professor D. M. Robinson.
 Hoard 4, no. 55.
 52.2 (3.38)↑c-f Wallace EL 364. From hoard 4.
 51.2 (3.32)↑ Professor D. M. Robinson.
 Hoard 4, no. 56.
 49.7 (3.22)↑c Wallace EL 365. From hoard 4.
 no weight in trade, Athens, 1954.
 From hoard 15.
 no weight in a private coll. in U.S.A.
81. XLI-50: 60.7 (3.93)↑c-f in the Eretria hoard of 1937.
 59.9 (3.88)↑c in the Eretria hoard of 1937.
 *59.9 (3.88)↑c Wallace EL 57. Secured in 1946.
 59.4 (3.85)↑f in the Eretria hoard of 1937.
 59.4 (3.85)↑c-f in the Eretria hoard of 1937.
 59.1 (3.83)↑c-f in the Eretria hoard of 1937.
 59.0 (3.82)↑c-f in the Eretria hoard of 1937.
 59.0 (3.82)↑f Wallace EL 121. Secured in 1949.
 59.0 (3.82)↑c Wallace EL 138. From hoard 12.
 58.8 (3.81)↑c-f in the Eretria hoard of 1937.
 58.7 (3.80)↑c-f in private possession, Athens.
 From hoard 5.
 58.0 (3.76)↑c-f in the Eretria hoard of 1937.
 57.3 (3.71) Naville v, June 1923, 1948.
 55.3 (3.58)↑c-f Wallace EL 339. From hoard 4.
 54.3 (3.52)↑c-f Wallace EL 211. From hoard 14.
 53.7 (3.48)↑c Wallace EL 336. From hoard 4.
 53.6 (3.47) Weber 3392. Whittall Sale, 1884.
 52.8 (3.42)↑c-f Wallace EL 338. From hoard 4.
 52.5 (3.40)↑c-f Wallace EL 340. From hoard 4.
 50.3 (3.26)↑c Wallace EL 341. From hoard 4.
 50.0 (3.24)↑c Wallace EL 337. From hoard 4.
 49.4 (3.20)↑ Professor D. M. Robinson.
 Hoard 4, no. 60.
 49.4 (3.20)↑f Wallace EL 343. From hoard 4.
 49.2 (3.19)↑c-f Wallace EL 383. From hoard 4.

- 48.0 (3.11)↑ Professor D. M. Robinson.
Hoard 4, no. 61.
- 47.9 (3.10)↑c-f Wallace EL 342. From hoard 4.
- 46.6 (3.02)↑f Wallace EL 109. From hoard 10.
82. XLI-51: 60.2 (3.90)↑c in the Eretria hoard of 1937.
59.7 (3.87)↑c in the Eretria hoard of 1937.
*59.7 (3.87)↑f Wallace EL 67. From hoard 8.
59.5 (3.86)↑f? Naville xvii, Dec. 1934, 464.
59.3 (3.84)↑c-f in the Eretria hoard of 1937.
59.0 (3.82)↑c-f in the Eretria hoard of 1937.
59.0 (3.82)↑c in the Eretria hoard of 1937.
59.0 (3.82)↑c-f in the Eretria hoard of 1937.
58.8 (3.81)↑c in the Eretria hoard of 1937.
58.8 (3.81)↑c-f in the Eretria hoard of 1937.
58.7 (3.80)↑c Wallace EL 139. From hoard 12.
58.7 (3.80)↑c-f in the Eretria hoard of 1937.
58.7 (3.80)↑c-f in the Eretria hoard of 1937.
58.3 (3.78)↑c-f Wallace EL 78. Secured in 1948.
55.1 (3.57)↑c Wallace EL 344. From hoard 4.
54.8 (3.55)↑c Wallace EL 351. From hoard 4.
52.6 (3.41)↑c Wallace EL 350. From hoard 4.
52.6 (3.41)↑c-f Wallace EL 347. From hoard 4.
52.5 (3.40)↑c Wallace EL 346. From hoard 4.
51.4 (3.33)↑c-f Wallace EL 345. From hoard 4.
50.9 (3.30)↑c Wallace EL 348. From hoard 4.
50.9 (3.30)↑ Professor D. M. Robinson.
Hoard 4, no. 57.
50.1 (3.25)↑c Wallace EL 349. From hoard 4.
49.4 (3.20)↑c Wallace EL 240. From hoard 13.
no weight in trade, Athens, 1954.
From hoard 15.
83. XLI-52: 60.7 (3.93)↑c-f in the Eretria hoard of 1937.
Incrusted.
59.1 (3.83)↑f Wallace EL 63. From hoard 8.
*58.8 (3.81)↑f Wallace EL 508. Secured in 1954.
58.7 (3.80)↑f in private possession, Athens.
From hoard 5.
58.1 (3.76)↑c-f Wallace EL 354. From hoard 4.
57.7 (3.74)↑c-f Wallace EL 242. From hoard 13.
56.3 (3.65)↑c-f Wallace EL 356. From hoard 4.
55.9 (3.62)↑f Wallace EL 48. Secured in 1946.
55.7 (3.61)↑c-f Wallace EL 241. From hoard 13.
55.4 (3.59)↑f Wallace EL 352. From hoard 4.

- 51.9 (3.36)↑c-f Wallace EL 357. From hoard 4.
 51.1 (3.31)↑f Wallace EL 355. From hoard 4.
 49.9 (3.23)↑c-f Wallace EL 353. From hoard 4.
84. XLI-53: *61.9 (4.01)↑c-f Wallace EL 73. Secured in 1947. The heaviest kantharos drachm; "VF/EF"—shows definite wear, surface clean.
 60.2 (3.90)↑f in the Eretria hoard of 1937.
 59.9 (3.88)↑f in the Eretria hoard of 1937.
 59.5 (3.86)↑f Wallace EL 47. Secured in 1946.
 59.5 (3.86)↑c-f in the Eretria hoard of 1937.
 59.3 (3.84)↑f in the Eretria hoard of 1937.
 59.0 (3.82)↑f in private possession, Athens.
 From hoard 5.
 58.2 (3.77)↑f in private possession, Athens.
 From hoard 5.
 56.3 (3.65) Hamburger 98, April 1933, 668.
 51.8 (3.36)↑c-f Wallace EL 358. From hoard 4.
 51.7 (3.35)↑f Wallace EL 36. Secured in 1945.
 51.7 (3.35)↑c-f Wallace EL 210. From hoard 14.
 no weight in trade, Athens, 1954.
 From hoard 15.
85. XLII-50: 60.2 (3.90)↑f in the Eretria hoard of 1937.
 60.0 (3.89)↑f E. W. Pyke, Toronto
 59.5 (3.86)↑f L. Meletopoulos, Athens.
 *58.8 (3.81)↑f Wallace EL 88. Secured in 1948.
 57.6 (3.73)↑f Wallace EL 50. Secured in 1946.
 54.2 (3.51)↑c Wallace EL 372. From hoard 4.
 51.9 (3.36)↑f Wallace EL 371. From hoard 4.
 49.7 (3.22)↘ Wallace EL 374. From hoard 4.
 46.5 (3.01)↑f Wallace EL 212. From hoard 14.
 44.2 (2.86)↑f Wallace EL 373. From hoard 4.
86. XLII-51: 60.3 (3.91)↑c Princeton Museum of Historical Art, Princeton.
 59.9 (3.88)↑c-f in the Eretria hoard of 1937.
 59.7 (3.87)↑f in the Eretria hoard of 1937.
 59.5 (3.86)↑c in the Eretria hoard of 1937.
 59.1 (3.83)↑c in the Eretria hoard of 1937.
 59.1 (3.83)↑f in the Eretria hoard of 1937.
 59.0 (3.82)↑f L. Meletopoulos, Athens.
 59.0 (3.82)↑c-f in private possession, Athens.
 From hoard 5.
 59.0 (3.82)↑c-f in the Eretria hoard of 1937.
 59.0 (3.82)↑c-f in the Eretria hoard of 1937.

- 58.8 (3.81)↑c-f in the Eretria hoard of 1937.
 58.8 (3.81)↑c-f in the Eretria hoard of 1937.
 58.7 (3.80)↑f Wallace EL 7.
 Hamburger 98, April 1933, 669.
 58.7 (3.80)↑f in private possession, Athens.
 From hoard 5.
 58.7 (3.80)↑c-f in the Eretria hoard of 1937.
 58.0 (3.76)↑f L. Meletopoulos, Athens.
 58.0 (3.76)↑f in private possession, Athens.
 From hoard 5.
 *57.9 (3.75)↑f Wallace EL 49. Secured in 1946.
 57.1 (3.70)↑f Wallace EL 64. From hoard 8.
 56.7 (3.67)↑c Wallace EL 140. From hoard 12.
 55.7 (3.61)↑c-f Wallace EL 375. From hoard 4.
 51.9 (3.36)↑ Professor D. M. Robinson.
 Hoard 4, no. 58.
 51.7 (3.35)↑c-f Wallace EL 376. From hoard 4.
 50.6 (3.28)↑f Wallace EL 378. From hoard 4.
 48.3 (3.13)↑f Wallace EL 379. From hoard 4.
 47.7 (3.09)↑c-f Wallace EL 377. From hoard 4.
 46.7 (3.03)↑f Wallace EL 380. From hoard 4.
 no weight ↑c-f in trade, Athens, 1952.
 no weight in trade, Athens, 1954.
 From hoard 15.
 no weight in trade, Athens, 1954.
 From hoard 15.
87. XLII-52: 59.5 (3.86)↑f in the Eretria hoard of 1937.
 59.5 (3.86)↑f in the Eretria hoard of 1937.
 59.3 (3.84)↑c L. Meletopoulos, Athens.
 *59.1 (3.83)↑f Wallace EL 251. From hoard 5.
 59.0 (3.82)↑f in private possession, Athens.
 From hoard 5.
 58.8 (3.81)↑f in private possession, Athens.
 From hoard 5.
 58.7 (3.80)↑f Wallace EL 158. From hoard 11.
 58.7 (3.80)↑f in the Eretria hoard of 1937.
 58.7 (3.80)↑c-f in the Eretria hoard of 1937.
 58.3 (3.78) Cahn 65, Oct. 1929, 154.
 57.9 (3.75)↑f Wallace EL 66. From hoard 8.
 57.7 (3.74) Hess ccii, Oct. 1930, 2463.
 53.7 (3.48)↑f Wallace EL 381. From hoard 4.
 53.5 (3.47)↑f Wallace EL 382. From hoard 4.
 52.6 (3.41)↑ Professor D. M. Robinson.
 Hoard 4, no. 59.

		50.2 (3.25)↑f	Wallace EL 243. From hoard 13.
		47.1 (3.05)↑f	Newell Coll., ANS New York.
			Secured in 1910.
		no weight ↑f	in trade, Athens, 1952.
		no weight	in trade, Athens, 1954.
			From hoard 15.
		no weight	in trade, Athens, 1954.
			From hoard 15.
88.	XLII-53:	59.9 (3.88)↑f	in private possession, Athens.
			From hoard 5.
		59.6 (3.86)↑f	in private possession, Athens.
			From hoard 5.
		59.0 (3.82)↑f	in the Eretria hoard of 1937.
		*58.7 (3.80)↑f	Wallace EL 65. From hoard 8.
		58.7 (3.80)↑f	in private possession, Athens.
			From hoard 5.
		54.0 (3.50)↑f	Wallace EL 384. From hoard 4.
		no weight	in trade, Athens, 1954.
			From hoard 15.
	?-?:	55.6 (3.60)	Spink, London. Dec. 1937, 67970.

DRACHMS WITH LYRE SYMBOL

Number listed here – 292

Date – about 302 B.C.

89.	XLIII-54:	61.9 (4.01)↑c	in the Eretria hoard of 1937.
		60.2 (3.90)↑c	in private possession, Athens.
			From hoard 5.
		60.2 (3.90)↑c	in the Eretria hoard of 1937.
		59.3 (3.84)↑c	in the Eretria hoard of 1937.
		58.2 (3.77)↑c	in the Eretria hoard of 1937.
		57.4 (3.72)↑c	L. Meletopoulos, Athens.
		55.9 (3.62)↑c	Wallace EL 514. Secured in 1955.
		*55.7 (3.61)↑c	Wallace EL 18. Secured in 1939.
		54.2 (3.51)↑c	Wallace EL 193. From hoard 14.
		53.3 (3.45)↑c	Wallace EL 194. From hoard 14.
		52.3 (3.39)↑c	Wallace EL 402. From hoard 4.
		no weight	in a private coll. in U.S.A.
90.	XLIII-55:	60.5 (3.92)↑c-f	in private possession, Athens.
			From hoard 5.
		60.5 (3.92)↑c-f	in the Eretria hoard of 1937.
		59.9 (3.88)↑c	in the Eretria hoard of 1937.

- *59.4 (3.85)↑c-f Wallace 183. Secured in 1951.
 58.5 (3.79)↑c in the Eretria hoard of 1937.
 58.4 (3.78)↑ Stadtbibliothek Winterthur.
 From Coll. Hüni.
 55.2 (3.58)↑ Professor D. M. Robinson.
 Hoard 4, no. 48.
 55.2 (3.58)↑c Wallace EL 404. From hoard 4.
 52.6 (3.41)↑c Wallace EL 407. From hoard 4.
 51.1 (3.31)↑c-f Wallace EL 406. From hoard 4.
 49.1 (3.18)↑c-f Wallace EL 195. From hoard 14.
 48.6 (3.15)↑c Wallace EL 422. From hoard 4.
 47.3 (3.06)↑c Wallace EL 403. From hoard 4.
 46.3 (3.00)↑c Wallace EL 405. From hoard 4.
91. XLIII-56: 60.5 (3.92)↑c in the Eretria hoard of 1937.
 *57.7 (3.74)↑c Wallace EL 160. From hoard 11.
 57.5 (3.73)↑c in the Eretria hoard of 1937.
 56.3 (3.65)↑ Professor D. M. Robinson.
 Hoard 4, no. 46.
 55.1 (3.57)↑c Professor D. M. Robinson.
 53.7 (3.48)↑c-f Wallace EL 234. From hoard 13.
 53.2 (3.45)↑c Wallace EL 408. From hoard 4.
 49.1 (3.18)↑c-f Wallace EL 409. From hoard 4.
 47.7 (3.09)↑c-f Wallace EL 421.
 From hoard 4; face eroded.
 no weight in trade, Athens, 1954.
 From hoard 15.
92. XLIII-57: 61.0 (3.95)↑c Wallace EL 75. Secured in 1948.
 61.0 (3.95)↑c in the Eretria hoard of 1937.
 59.5 (3.86)↑c in the Eretria hoard of 1937.
 59.3 (3.84)↑c in the Eretria hoard of 1937.
 59.3 (3.84)↑c in the Eretria hoard of 1937.
 59.1 (3.83)↑c Wallace EL 43. Secured in 1946.
 58.7 (3.80)↑c in the Eretria hoard of 1937.
 *58.4 (3.78)↑c Wallace EL 80. Secured in 1948.
 58.4 (3.78)↑ Fogg Museum, Harvard University.
 58.4 (3.78) R. Ratto, Oct. 1934, 153.
 58.4 (3.78)↑c in the Eretria hoard of 1937.
 58.2 (3.77)↑c F. S. Knobloch, New York.
 58.0 (3.76)↑c Wallace EL 44. Secured in 1946.
 57.9 (3.75)↑c in the Eretria hoard of 1937.
 57.1 (3.70)↑c in the Eretria hoard of 1937.
 55.1 (3.57)↑c British Museum. Earle Fox, 1920.
 55.0 (3.56)↑c Wallace EL 410. From hoard 4.

- 54.0 (3.50)↑ Professor D. M. Robinson.
Hoard 4, no. 47.
- 54.0 (3.50)↑c Wallace EL 190. From hoard 14.
- 52.5 (3.40)↑c Wallace EL 235. From hoard 13.
- 52.5 (3.40)↑c Wallace EL 105. From hoard 10.
- 51.7 (3.35)↑c Wallace EL 415. From hoard 4.
- 51.7 (3.35)↑c Wallace EL 191. From hoard 14.
- 51.1 (3.31)↑c Wallace EL 413. From hoard 4.
- 51.0 (3.30)↑c Wallace EL 411. From hoard 4.
- 50.6 (3.28)↑c Wallace EL 412. From hoard 4.
- 49.4 (3.20)↑c Wallace EL 417. From hoard 4.
- 49.4 (3.20)↑c Wallace EL 107. From head 10.
- 49.2 (3.19)↑c Wallace EL 419. From hoard 4.
- 48.7 (3.16)↑c Wallace EL 420. From hoard 4.
- 48.6 (3.15)↑c Wallace EL 414. From hoard 4.
- 48.1 (3.12)↑c Wallace EL 416. From hoard 4.
- 46.3 (3.00)↑c Wallace EL 418. From hoard 4.
- no weight ↑c in trade, Athens, 1952.
- no weight in trade, Athens, 1954.
- From hoard 15.
- no weight in trade, Athens, 1954.
- From hoard 15.
93. XLIV-54: 60.2 (3.90) Glendining, March 1931, 1064.
- *59.9 (3.88)↑c Wallace EL 70. Secured in 1947.
- 59.1 (3.83)↑c in private possession, Athens.
- From hoard 5.
- 57.4 (3.72)↑c in private possession, Athens.
- From hoard 5.
- 56.9 (3.69)↑c in private possession, Athens.
- From hoard 5.
- 56.5 (3.66)↑c Wallace EL 142. From hoard 12.
- 56.5 (3.66)↑c Cahn 75, May 1932, 309. Helbing,
Oct. 1927, 2946, where weight is
given as 3.60.
- 55.4 (3.59)↑c Wallace EL 178. Secured in 1951.
- 53.2 (3.45)↑c Wallace EL 434. From hoard 4.
- 52.3 (3.39)↑c Wallace EL 432. From hoard 4.
- 50.3 (3.26)↑c Wallace EL 433. From hoard 4.
- 47.3 (3.06)↑c Wallace EL 435. From hoard 4.
- 46.5 (3.01)↑c Wallace EL 436. From hoard 4.
- no weight ↑c in trade, Athens, 1952.
94. XLIV-55: 60.9 (3.95)↑c in the Eretria hoard of 1937.
- 59.9 (3.88)↑c in the Eretria hoard of 1937.

- 59.4 (3.85)↑c in the Eretria hoard of 1937.
 59.1 (3.83)↑c in private possession, Athens.
 From hoard 5.
- 58.6 (3.80)↑c in the Eretria hoard of 1937.
 58.1 (3.76)↑c in the Eretria hoard of 1937.
 57.4 (3.72)↑c Wallace EL 437. From hoard 4.
 *57.3 (3.71)↑c Wallace EL 116. From hoard 9.
 57.1 (3.70)↑ Professor D. M. Robinson.
 Hoard 4, no. 49.
- 48.6 (3.15)↑c Wallace EL 438. From hoard 4.
95. XLIV-56: 60.5 (3.92)↑c in the Eretria hoard of 1937.
 Incrusted.
- 60.4 (3.91)↑ Copenhagen SNG 484.
 60.2 (3.90)↑c in the Eretria hoard of 1937.
 58.7 (3.80)↑c in the Eretria hoard of 1937.
 58.5 (3.79)↑c in private possession, Athens.
 From hoard 5.
- *55.6 (3.60)↑c Wallace EL 439. From hoard 4.
 53.8 (3.48)↑c Wallace EL 233. From hoard 13.
 49.9 (3.23)↑c Wallace EL 440. From hoard 4.
 no weight ↑c in trade, Athens, 1952.
96. XLIV-57: 59.4 (3.85)↑c in the Eretria hoard of 1937.
 59.1 (3.83)↑c in the Eretria hoard of 1937.
 59.0 (3.82)↑c in the Eretria hoard of 1937.
 58.8 (3.81)↑c in the Eretria hoard of 1937.
 58.6 (3.80)↑c-n in the Eretria hoard of 1937.
 58.2 (3.77)↑c-n in private possession, Athens.
 From hoard 5.
- *58.1 (3.76)↑c-n Wallace EL 509. Secured in 1954.
 58.0 (3.76)↑c-n in private possession, Athens.
 From hoard 5.
- 57.9 (3.75)↑c Wallace EL 141. From hoard 12.
 57.4 (3.72)↑c Wallace EL 87. Secured in 1948.
 56.3 (3.65)↑ Newell Coll., ANS, New York.
 56.3 (3.65)↑c-n Wallace EL 441. From hoard 4.
 55.7 (3.61)↑c-n Wallace EL 232. From hoard 13.
 49.4 (3.20)↑c-n Wallace EL 188. From hoard 14.
 48.0 (3.11)↑c-n Wallace EL 442. From hoard 4.
 no weight in the Eretria hoard of 1937.
 no weight in trade, Athens, 1954.
 From hoard 15.
- no weight in trade, Athens, 1954.
 From hoard 15.

- no weight in trade, Athens, 1954.
From hoard 15.
97. XLIV-58: *53.4 (3.46)↑c Wallace EL 431. From hoard 4.
98. XLV-54: 60.2 (3.90)↑c-n in the Eretria hoard of 1937.
59.9 (3.88)↑c in the Eretria hoard of 1937.
59.7 (3.87)↑c Wallace EL 143. From hoard 12.
59.4 (3.85) Hamburger, May 1929, 277.
59.1 (3.83)↑c L. Meletopoulos, Athens.
*59.0 (3.82)↑c Wallace EL 260. Secured in 1952.
58.6 (3.80) Hess 224, Nov. 1936, 928.
58.2 (3.77)↑c in the Eretria hoard of 1937.
57.9 (3.75)↑c in private possession, Athens.
From hoard 5.
57.9 (3.75)↑c in the Eretria hoard of 1937.
52.8 (3.42)↑c Wallace EL 229. From hoard 13.
48.3 (3.13)↑c Wallace EL 387. From hoard 4.
47.4 (3.07)↑c Wallace EL 161. From hoard 11.
46.8 (3.03)↑c Wallace EL 197. From hoard 14.
99. XLV-55: 59.7 (3.87)↑ Professor E. Zygman, New York.
59.4 (3.85)↑c in the Eretria hoard of 1937.
59.3 (3.84)↑c in private possession, Athens.
From hoard 5.
58.4 (3.78) Hamburg 98, April 1933, 667.
56.3 (3.65)↑c Wallace EL 115. From hoard 9.
52.2 (3.38)↑c Wallace EL 231. From hoard 13.
49.4 (3.20)↑ University of Colorado 93 (both dies uncertain).
*46.6 (3.02)↑c Wallace EL 388. From hoard 4.
no weight ↑c in trade, Athens, 1952.
no weight in trade, Athens, 1954.
From hoard 15.
100. XLV-56: 62.3 (4.04)↑c in the Eretria hoard of 1937. The
heaviest lyre drachm; rather worn,
very little oxidized.
60.8 (3.94) Spink, *Num. Circ.* April, 1954.
no. 3041.
60.7 (3.93)↑c in the Eretria hoard of 1937.
Incrusted.
59.9 (3.88)↑c in the Eretria hoard of 1937.
Incrusted.
59.3 (3.84)↑c Wallace EL 69. From hoard 8.
58.9 (3.82)↑c in the Eretria hoard of 1937.
Incrusted.

- 58.9 (3.82)↑c Professor D. M. Robinson.
 58.6 (3.80)↑c-n L. Meletopoulos.
 58.0 (3.76)↑c Wallace EL 42. Secured in 1946.
 *57.4 (3.72)↑c Wallace EL 41. Secured in 1946.
 57.1 (3.70)↑c in private possession, Athens.
 From hoard 5.
 56.6 (3.67)↑c Wallace EL 389. From hoard 4.
 56.3 (3.65)↑c-n Wallace EL 186. From hoard 14.
 55.4 (3.59)↑ Paris, Cabinet des Médailles.
 52.0 (3.37)↑c Wallace EL 390. From hoard 4.
 51.2 (3.32)↑c Wallace EL 391. From hoard 4.
101. XLV-57: 60.5 (3.92)↑c L. Meletopoulos, Athens.
 60.5 (3.92)↑c in the Eretria hoard of 1937.
 60.2 (3.90)↑n in the Eretria hoard of 1937.
 60.2 (3.90)↑c-n in the Eretria hoard of 1937.
 60.0 (3.89) R. Ratto, Feb. 1928, 430.
 59.9 (3.88)↑c in the Eretria hoard of 1937.
 59.4 (3.85)↑c-n Wallace EL 179. Secured in 1951.
 59.1 (3.83)↑c-n in private possession, Athens.
 From hoard 5.
 59.1 (3.83)↑c-n in private possession, Athens.
 From hoard 5.
 59.0 (3.82)↑c in the Eretria hoard of 1937.
 58.8 (3.81)↑c-n in the Eretria hoard of 1937.
 58.6 (3.80)↑c in the Eretria hoard of 1937.
 58.2 (3.77)↑c-n in private possession, Athens.
 From hoard 5.
 58.2 (3.77)↑c-n Wallace EL 90. Secured in 1948.
 58.2 (3.77)↑c-n Wallace EL 175. Secured in 1950.
 57.8 (3.75)↑c-n in the Eretria hoard of 1937.
 57.8 (3.75)↑c-n in the Eretria hoard of 1937.
 57.5 (3.73)↑c in the Eretria hoard of 1937.
 57.4 (3.72)↑n Wallace EL 79. Secured in 1948.
 57.4 (3.72)↑c in the Eretria hoard of 1937.
 *57.1 (3.70)↑c Wallace EL 40. Secured in 1946.
 57.1 (3.70)↑ Col. de Laval, Stockholm, no. 3.
 57.1 (3.70)↑c Wallace EL 76. Secured in 1948.
 56.7 (3.67)↑c in the Eretria hoard of 1937.
 55.7 (3.61)↑c Wallace EL 394. From hoard 4.
 55.2 (3.58)↑c Wallace EL 8. Secured in 1937.
 53.7 (3.48)↑c Wallace EL 230. From hoard 13.
 53.1 (3.44)↑c-n Wallace EL 189. From hoard 14.
 52.9 (3.43)↑c Wallace EL 398. From hoard 4.
 52.5 (3.40)↑c-n Wallace EL 185. From hoard 14.

- 52.3 (3.39)↑c-n Wallace EL 399. From hoard 4.
 52.1 (3.38)↑c Wallace EL 392. From hoard 4.
 51.7 (3.35)↑c-n Wallace 395. From hoard 4.
 51.3 (3.32)↑ Professor D. M. Robinson.
 Hoard 4, no. 50.
 51.3 (3.32)↑c Wallace EL 400. From hoard 4.
 50.9 (3.30)↑ Professor D. M. Robinson.
 Hoard 4, 51.
 50.3 (3.26)↑c Wallace EL 401. From hoard 4.
 49.7 (3.22)↑c-n Wallace EL 397. From hoard 4.
 49.5 (3.21)↑c-n Wallace EL 423. From hoard 4.
 48.6 (3.15)↑c Wallace EL 396. From hoard 4.
 46.6 (3.02)↑c Wallace EL 393. From hoard 4.
 44.0 (2.85)↑n Wallace EL 184. From hoard 14.
 no weight ↑c in trade, Athens, 1952.
 no weight in trade, Athens, 1954.
 From hoard 15.
102. XLV-58: *46.3 (3.00)↑c Wallace EL 450. From hoard 4.
103. XLVI-54: 60.2 (3.90)↑c in the Eretria hoard of 1937.
 59.3 (3.84) Naville i, April 1921, 1499. Pozzi Coll.
 58.8 (3.81)↑c in private possession, Athens.
 From hoard 5.
 57.9 (3.75)↑c in the Eretria hoard of 1937.
 57.3 (3.71)↑c S. Bryonis, Harvard Un.
 *52.8 (3.42)↑c Wallace EL 424. From hoard 4.
 49.4 (3.20)↑c Wallace EL 425. From hoard 4.
 44.6 (2.89)↑c Wallace EL 104. From hoard 10.
 no weight J. G. Morgenthau Sale 405, Oct. 1939,
 822.
 no weight ↑c in trade, Athens, 1952.
104. XLVI-55: 60.2 (3.90)↑c in the Eretria hoard of 1937.
 59.4 (3.85)↑c-f in the Eretria hoard of 1937.
 57.1 (3.70)↑c Wallace EL 244. From hoard 13.
 *56.3 (3.65)↑c Wallace EL 426. From hoard 4.
106. XLVI-56: 60.5 (3.92)↑c in the Eretria hoard of 1937.
 58.4 (3.78)↑c in private possession, Athens.
 From hoard 5.
 58.1 (3.76)↑c-f in the Eretria hoard of 1937.
 *54.3 (3.52)↑c Wallace EL 427. From hoard 4.
 53.7 (3.48)↑c Wallace EL 428. From hoard 4.
 51.9 (3.36)↑c Professor D. M. Robinson.

106. XLVI-57: 62.5 (4.05)↑c in the Eretria hoard of 1937.
Incrusted.
61.1 (3.96)↑c in the Eretria hoard of 1937.
60.9 (3.95)↑c in the Eretria hoard of 1937.
59.4 (3.85)↑c in the Eretria hoard of 1937.
58.6 (3.80)↑c in the Eretria hoard of 1937.
58.5 (3.79)↑c in the Eretria hoard of 1937.
57.1 (3.70)↑c L. Meletopoulos, Athens.
57.1 (3.70)↑ Vienna.
56.3 (3.65)↑c L. Meletopoulos, Athens.
55.4 (3.59)↑c Wallace EL 451. From hoard 4.
*53.9 (3.49)↑c Wallace EL 429. From hoard 4.
50.9 (3.30)↑c Wallace EL 430. From hoard 4.
49.5 (3.21)↑c Wallace EL 192. From hoard 14.
107. XLVI-58: 60.2 (3.90)↑c in the Eretria hoard of 1937.
108. XLVII-58: 61.8 (4.00) in the Eretria hoard of 1937.
Incrusted.
59.4 (3.85)↑c in the Eretria hoard of 1937.
59.4 (3.85)↑c-n? Professor E. Zygman, New York.
50.8 (3.29)↑ Professor D. M. Robinson.
Hoard 4, no. 52.
*50.3 (3.26)↑c Wallace EL 445. From hoard 4.
109. XLVIII-58: 57.6 (3.73)↑c-n in the Eretria hoard of 1937.
*52.5 (3.40)↑c Wallace EL 449. From hoard 4.
110. XLVIII-59: 59.0 (3.82)↑c in private possession, Athens.
From hoard 5.
*56.5 (3.66)↑c Wallace EL 159. From hoard 11.
56.3 (3.65)↑c L. Meletopoulos, Athens.
56.3 (3.65)↑c in the Eretria hoard of 1937.
51.1 (3.31)↑c Wallace EL 446. From hoard 4.
50.6 (3.28)↑c Wallace EL 448. From hoard 4.
50.4 (3.27)↑c Wallace EL 447. From hoard 4.
44.1 (2.86)↑ Newell Coll., ANS, New York.
no weight C. Platt, April 1933, 114.
no weight ↑c in trade, Athens, 1952.
no weight in trade, Athens, 1954.
From hoard 15.
111. XLIX-58: 60.4 (3.91)↑c-f in the Eretria hoard of 1937.
no weight in trade, Athens, 1954.
From hoard 15.
no weight in trade, Athens, 1954.
From hoard 15.

112. XLIX-59: *58.7 (3.80)↑c Wallace EL 253. From hoard 5.
113. L-58: 61.7 (4.00)↑c in the Eretria hoard of 1937.
Incrusted.
61.7 (4.00)↑c in the Eretria hoard of 1937. In-
crusted. Rev. die uncertain.
59.3 (3.84)↑c in the Eretria hoard of 1937.
*59.3 (3.84)↑c-f Wallace EL 249. From hoard 5.
58.6 (3.80)↑c in the Eretria hoard of 1937. In-
crusted. Rev. die uncertain.
55.7 (3.61)↑c Wallace EL 15. Naville v, June 1923,
1946. Weber 3393 (wrongly said to
have no symbol).
54.8 (3.55)↑c Wallace EL 11. Secured in 1939.
49.1 (3.18)↑c-f Wallace EL 196. From hoard 14.
Rev. die uncertain.
48.0 (3.11)↑c Wallace EL 444. From hoard 4.
no weight in trade, Athens, 1954.
From hoard 15.
114. L-59: 59.3 (3.84)↑c in the Eretria hoard of 1937.
57.9 (3.75)↑c in private possession, Athens.
From hoard 5.
57.9 (3.75)↑c in the Eretria hoard of 1937.
*52.6 (3.41)↑c Wallace EL 443. From hoard 4.
50.1 (3.25)↑c Wallace EL 106. From hoard 10.
49.4 (3.20)↑c Wallace EL 187. From hoard 14.
?-?: 61.8 (4.00)↑c in the Eretria hoard of 1937.
Incrusted.
60.9 (3.95)↑c in the Eretria hoard of 1937.
Incrusted.
60.2 (3.90)↑c in the Eretria hoard of 1937.
Incrusted.
60.2 (3.90)↑c in the Eretria hoard of 1937.
Incrusted.
60.2 (3.90)↑c in the Eretria hoard of 1937.
Incrusted.
59.0 (3.82) Spink, London, Dec. 1937, 67968.
58.3 (3.78) Spink, London, Dec. 1937, 67972.
57.2 (3.71) Glendining 4. April 1955. No phot.
56.0 (3.63) Spink, London, Dec. 1937, 67971.
55.6 (3.60) Torino, Regio Museo, 5451 in 1883
cat. Pierced.

DRACHMS WITH SATYR'S HEAD SYMBOL

Number listed here – 196

Date – about 289 or 279 B.C.

- | | | | |
|------|--------|------------------|--|
| 115. | LI-60: | *56.8 (3.68)↑c-f | Wallace EL 85. Secured in 1948. |
| | | 56.3 (3.65)↑c-f | Professor Mary White, Trinity College, Toronto. |
| | | 56.3 (3.65)↑c-f | Wallace EL 37. Secured in 1945. |
| | | 55.9 (3.62)↖ | I. Benson, New York. |
| | | 55.9 (3.62)↑c | Wallace EL 164. From hoard 11. |
| | | 55.9 (3.62)↑c | in the Eretria hoard of 1937. |
| | | 55.9 (3.62)↑c-n | in the Eretria hoard of 1937. |
| | | 55.7 (3.61)↑c | L. Meletopoulos, Athens. |
| | | 55.6 (3.60)↑ | Lockett SNG 1779 (symbol called a bunch of grapes). Naville iv, 1922, 550. |
| | | 55.1 (3.57)↑c-f | Wallace EL 94. Secured in 1949. |
| | | 53.2 (3.45)↑c | in private possession, Athens.
From hoard 5. |
| | | 53.1 (3.44)↑c | Wallace EL 454. From hoard 4. |
| | | 50.2 (3.25)↑c-n | Wallace EL 225. From hoard 13. |
| | | 47.9 (3.10)↑c | Wallace EL 203. From hoard 14. |
| | | 45.6 (2.95)↑c | Wallace EL 455. From hoard 4. |
| | | 45.4 (2.94)↑c | Wallace EL 457. From hoard 4. |
| | | 41.9 (2.72)↑c | Wallace EL 456. From hoard 4. |
| | | no weight | in trade, Athens, 1954.
From hoard 15. |
| | | no weight | in trade, Athens, 1954.
From hoard 15. |
| | | no weight | in trade, Athens, 1954.
From hoard 15. |
| 116. | LI-61: | 57.3 (3.71)↑c | in the Eretria hoard of 1937.
Incrusted. |
| | | 57.1 (3.70)↑c-n | in the Eretria hoard of 1937. |
| | | 57.1 (3.70)↑c-n | in the Eretria hoard of 1937. |
| | | 55.6 (3.60)↑c-n | in the Eretria hoard of 1937. |
| | | *55.2 (3.58)↑n | Wallace EL 53. Secured in 1946. |
| | | 54.0 (3.50)↑n | ANS, New York. Secured in 1924. |
| | | 48.2 (3.12)↑c-n | Wallace EL 465. From hoard 4.
Broken. |
| | | 41.7 (2.70)↑c-n | Wallace EL 464. From hoard 4.
Broken. |
| | | 40.1 (2.60)↑c-n | Wallace EL 226. From hoard 13. |
| | | no weight ↑c-n | in trade, Athens, 1952. |

117. LI-62: 57.1 (3.70)↑c-f Wallace EL 84. Secured in 1948.
 57.1 (3.70)↑c-f in private possession, Athens.
 From hoard 5.
 56.9 (3.69)↑c in the Eretria hoard of 1937.
 56.8 (3.68)↑c in the Eretria hoard of 1937.
 56.8 (3.68)↑c in the Eretria hoard of 1937.
 56.6 (3.67)↑c in the Eretria hoard of 1937.
 *56.3 (3.65)↑c-f Wallace EL 122. Secured in 1950.
 56.3 (3.65)↑c in the Eretria hoard of 1937.
 56.2 (3.64)↑f Wallace EL 6. Secured in 1937.
 55.9 (3.62)↑c in the Eretria hoard of 1937.
 55.7 (3.61)↑c-f Wallace EL 150. From hoard 12.
 55.6 (3.60)↑f Wallace EL 51. Secured in 1946.
 55.4 (3.59)↑c-f in private possession, Athens.
 From hoard 5.
 54.0 (3.50)↑f? Amsterdam Academy no. 36.
 48.7 (3.16)↑c-f Wallace EL 461. From hoard 4.
 48.2 (3.12)↑ Professor D. M. Robinson.
 Hoard 4, no. 53.
 47.7 (3.09)↑f Wallace EL 460. From hoard 4.
 47.1 (3.05)↑f Wallace EL 170. From hoard 11.
 47.1 (3.05)↑c-f Wallace EL 459. From hoard 4.
 46.6 (3.02)↑f Wallace EL 458. From hoard 4.
 46.6 (3.02)↑f Wallace EL 462. From hoard 4.
118. LII-60: *56.3 (3.65)↑f Wallace EL 52. Secured in 1946.
119. LII-61: *56.9 (3.69)↑c BM *Central Greece* 13, pl. 17, 7.
 56.9 (3.69)↑c in private possession, Athens.
 From hoard 5.
 56.3 (3.65)↑c in the Eretria hoard of 1937.
 56.0 (3.63)↑c in the Eretria hoard of 1937.
 54.8 (3.55)↑c Wallace EL 268. Secured in 1952.
 52.2 (3.38)↑c Wallace EL 169. From hoard 11.
 48.0 (3.11)↑c Wallace EL 452. From hoard 4.
 no weight ↑c in trade, Athens, 1952.
 no weight in trade, Athens, 1954.
 From hoard 15.
120. LII-62: *56.2 (3.64)↑f Wallace EL 13. Secured in 1941.
 56.2 (3.64) Naville xii, 1926, 1397. Naville v,
 1923, 1950.
 55.9 (3.62)↑f Wallace EL 14. Secured in 1941.
 55.9 (3.62)↑c-f in the Eretria hoard of 1937.
 55.9 (3.62)↑c-f in the Eretria hoard of 1937.
 55.6 (3.60)↑c-f Wallace EL 149. From hoard 12.

- 55.6 (3.60)↑c-f in the Eretria hoard of 1937.
 55.4 (3.59)↑c-f in the Eretria hoard of 1937.
 55.4 (3.59)↑c-f in the Eretria hoard of 1937.
 55.2 (3.58) Glendining, Dec. 1927, 618a.
 55.0 (3.56)↘ Munich.
 54.8 (3.55)↑c-f in the Eretria hoard of 1937.
 51.3 (3.33)↘ Dr. J. S. Wilkinson, Toronto.
 50.0 (3.24)↑f Wallace EL 202. From hoard 14.
 no weight in trade, Athens, 1954.
 From hoard 15.
 no weight in trade, Athens, 1954.
 From hoard 15.
 no weight in trade, Athens, 1954.
 From hoard 15.
 no weight in trade, Athens, 1954.
 From hoard 15.
121. LII-63: 56.3 (3.65)↑f in the Eretria hoard of 1937.
122. LII-64: *38.1 (2.47)↑f Wallace EL 453. From hoard 4.
 Broken.
123. LIII-60: 57.3 (3.71)↑f in the Eretria hoard of 1937.
 Incrusted.
 57.1 (3.70)↑c-f in the Eretria hoard of 1937.
 57.1 (3.70)↑ Vienna.
 *56.9 (3.69)↑f Wallace EL 250. From hoard 5.
 56.3 (3.65)↑f Wallace EL 123. Secured in 1950.
 56.3 (3.65)↑f in the Eretria hoard of 1937.
 56.2 (3.64)↑f Wallace EL 83. Secured in 1948.
 56.0 (3.63)↑f in the Eretria hoard of 1937.
 55.8 (3.62) John T. Roberts, Denver.
 55.8 (3.62) cast in Imhoof-Blumer's cast coll.,
 Winterthur.
 55.6 (3.60) Helbig, 1928, 2971.
 55.6 (3.60)↑c-f in the Eretria hoard of 1937.
 55.4 (3.59) in the Eretria hoard of 1937.
 54.3 (3.51)↑f Wallace EL 151. From hoard 12.
 52.5 (3.40)↑f Wallace 74. Secured in 1948.
 51.9 (3.36)↑c-f Wallace 101. From hoard 10.
 47.9 (3.10)↑f Wallace 102. From hoard 10.
 47.2 (3.06)↑f Wallace 467. From hoard 4.
 43.5 (2.82)↑f Wallace 466. From hoard 4.
124. LIII-61: 56.9 (3.69)↑c L. Meletopoulos, Athens.
 56.9 (3.69?)↑ Fitzwilliam Museum, Cambridge, 2978
 (weight given as "56.9 [3.59]").

- 56.3 (3.65)↑c-n in the Eretria hoard of 1937.
 56.2 (3.64)↑c-f L. Meletopoulos, Athens.
 *55.7 (3.61)↑c Wallace EL 147. From hoard 12.
 55.6 (3.60)↑ Karlsruhe.
 52.2 (3.38)↑c Wallace EL 472. From hoard 4.
 51.1 (3.31)↑c Wallace EL 463. From hoard 4.
 50.2 (3.25)↑ Professor D. M. Robinson.
 Hoard 4, no. 54.
 48.5 (3.14)↑c-f Wallace EL 468. From hoard 4.
 48.0 (3.11)↑c Wallace EL 473. From hoard 4.
 46.6 (3.02)↑c Wallace EL 469. From hoard 4.
 46.1 (2.99)↑c Wallace EL 471. From hoard 4.
 45.7 (2.96)↑c Wallace EL 470. From hoard 4.
 no weight in trade, Athens, 1954.
 From hoard 15.
 no weight in trade, Athens, 1954.
 From hoard 15.
 no weight in a private collection in the U.S.A.
125. LIII-62: *56.8 (3.68)↑f Wallace EL 261. Secured in 1952.
 56.3 (3.65)↑c in the Eretria hoard of 1937.
 56.2 (3.64)↑f Wallace EL 77. Secured in 1948.
 56.0 (3.63)↑c in the Eretria hoard of 1937.
 55.6 (3.60) Jameson 1178.
 47.0 (3.05)↑c-f Wallace EL 484. From hoard 4.
 Broken.
 40.4 (2.62)↑c-f Wallace EL 479. From hoard 4.
 Broken.
 38.2 (2.48)↑c-f Wallace EL 483. From hoard 4.
 Broken.
 no weight in trade, Athens, 1952.
 no weight in trade, Athens, 1954.
 From hoard 15.
126. LIII-63: 57.1 (3.70)↘ in the Eretria hoard of 1937.
 56.9 (3.69)↘ in private possession, Athens.
 From hoard 5.
 56.8 (3.68)↘ in private possession, Athens.
 From hoard 5.
 56.5 (3.66)↑f in the Eretria hoard of 1937.
 56.3 (3.65)↘ Professor John Caskey, Athens.
 56.2 (3.64)↑f in the Eretria hoard of 1937.
 56.2 (3.64)↘ in private possession, Athens.
 From hoard 5.
 56.0 (3.63)↘ Boston Museum of Fine Art, 20.946.

- 55.6 (3.60)↖ Wallace EL 167. From hoard 11.
 55.6 (3.60)↖ in the Eretria hoard of 1937.
 *55.0 (3.56)↖ BM *Central Greece* 14.
 54.8 (3.55)↖ The Hague, 3716.
 54.5 (3.53)↖ L. Meletopoulos, Athens.
 54.3 (3.52)↑f in the Eretria hoard of 1937.
 51.0 (3.30)↖ Wallace EL 33. Secured in 1945.
 Broken.
 49.9 (3.23)↖ Wallace EL 476. From hoard 4.
 49.2 (3.19)↖ Karlsruhe. Holed and worn; obv. die
 not certain.
 47.4 (3.07)↖ Wallace EL 475. From hoard 4.
 46.7 (3.03)↖ Wallace EL 34. Secured in 1945.
 46.7 (3.03)↖ Wallace EL 474. From hoard 4.
 46.3 (3.00)↖ Wallace EL 166. From hoard 11.
 45.7 (2.96)↖ Wallace EL 200. From hoard 14.
 44.4 (2.88)↖ Wallace EL 477. From hoard 4.
 Broken.
 37.5 (2.43)↖ Wallace EL 168. From hoard 11.
 no weight Paris, Cab. des Méd., Babelon II.3,
 181 and pl. 198.4.
 no weight ↖ in trade, Athens, 1952.
 no weight ↖ in trade, Athens, 1954.
 From hoard 15.
127. LIII-64: 57.0 (3.69)↑ Copenhagen SNG 483. Lambros 1887.
 56.7 (3.67)↑c-f in the Eretria hoard of 1937.
 56.7 (3.67)↑c-f in the Eretria hoard of 1937.
 56.5 (3.66)↑f Wallace EL 165. From hoard 11.
 56.5 (3.66)↑c-f Wallace EL 511. Secured in 1954.
 56.3 (3.65)↑c in the Eretria hoard of 1937.
 56.0 (3.63)↑c-f in the Eretria hoard of 1937.
 56.0 (3.63)↑c-f in the Eretria hoard of 1937.
 *56.0 (3.63)↑f Wallace EL 9. Secured in 1937.
 55.8 (3.62)↑c-f in the Eretria hoard of 1937.
 55.8 (3.62)↑c Newell Coll., ANS, New York.
 Secured in 1909.
 55.7 (3.61)↑c-f in the Eretria hoard of 1937.
 55.7 (3.61)↑c-f Wallace EL 148. From hoard 12.
 55.6 (3.60)↑c-f in the Eretria hoard of 1937.
 55.4 (3.59)↑c in the Eretria hoard of 1937.
 54.8 (3.55)↑c-f in the Eretria hoard of 1937.
 54.6 (3.54)↑c in the Eretria hoard of 1937.
 51.9 (3.36)↑f Wallace EL 23.
 Naville xvi, 1930, 671.

- 51.0 (3.30)↑f Wallace EL 227. From hoard 13.
 46.8 (3.03)↑f Wallace EL 228. From hoard 13.
 45.4 (2.94)↑f Wallace EL 103. From hoard 10.
 43.7 (2.83)↑c-f Wallace EL 480. From hoard 4.
 43.7 (2.83)↑f Wallace EL 478. From hoard 4.
 42.9 (2.78)↑f Wallace EL 201. From hoard 14.
 42.8 (2.77)↑c-f Wallace EL 100. From hoard 10.
 42.0 (2.72)↑c-f Wallace EL 482. From hoard 4.
 Broken.
 41.2 (2.67)↑f Wallace EL 481. From hoard 4.
 Broken.
 no weight Bourgey, 1932, 174.
 Feuardent, 1919, 347.
 no weight cast in Imhoof-Blumer's cast coll.,
 Winterthur.
 no weight ↑f in trade, Athens, 1952.
 no weight ↑c-f in trade, Athens, 1952.
 no weight in trade, Athens, 1954.
 From hoard 15.
 no weight in trade, Athens, 1954.
 From hoard 15.
 no weight in trade, Athens, 1954.
 From hoard 15.
128. LIV-65: *54.8 (3.55)↑c Wallace EL 255. From hoard 5.
 129. LV-65: *55.6 (3.60)↑c in the Eretria hoard of 1937.
 55.1 (3.57)↑c in the Eretria hoard of 1937.
 ?-62: no weight in trade, Athens, 1954. From
 hoard 15. No photograph of obv.
 no weight in trade, Athens, 1954. From
 hoard 15. No photograph of obv.
 no weight in trade, Athens, 1954. From
 hoard 15. No photograph of obv.
 ?-?: 57.1 (3.70) Hess, April 1936, 641.
 No photograph.
 55.7 (3.61) Leake. *Num. Hell.*, p. 125.

DRACHMS WITH DOLPHIN SYMBOL

Number listed here – 90

Date – about 270–267 B.C.

130. LVI-66: 57.6 (3.73)↑c British Museum. Secured in 1949.
 57.3 (3.71)↑c in private possession, Athens.
 From hoard 5.

		*56.8 (3.68)↑c	Wallace EL 86. Secured in 1948.
		56.8 (3.68)↑c	in private possession, Athens. From hoard 5.
		56.7 (3.67)↑c	Wallace EL 29. Secured in 1944.
		56.2 (3.64)↑c	in private possession, Athens. From hoard 5.
		55.1 (3.57)	Cahn 66, May 1930, 222.
		54.3 (3.52)↑c	Wallace EL 72. Secured in 1947.
		53.8 (3.49)↑c	Wallace EL 218. From hoard 13.
		53.7 (3.48)↑c	Wallace EL 501. From hoard 4.
		53.7 (3.48)↑	Professor D. M. Robinson. Hoard 4, no. 72.
		47.9 (3.10)↑c	Wallace EL 502. From hoard 4.
		42.0 (2.72)↑c	Newell Coll., ANS, New York. Secured in 1909.
		no weight	in trade, Athens, 1954. From hoard 15.
		no weight	in trade, Athens, 1954. From hoard 15.
131.	LVI-67:	58.2 (3.77)↑c	Gans, Mail Bid Sale 14, 1954, 126.
		57.9 (3.75)↑c	in the Eretria hoard of 1937.
		57.1 (3.70)↑c	in the Eretria hoard of 1937.
		56.7 (3.67)↑c	in private possession, Athens. From hoard 5.
		55.9 (3.62)↑	Fogg Museum, Harvard University.
		55.6 (3.60)↑c	L. Meletopoulos, Athens.
		51.6 (3.34)↑c	Wallace EL 505. From hoard 4.
		48.8 (3.16)↑	Professor D. M. Robinson. Hoard 4, no. 73.
		47.7 (3.09)↑c	Wallace EL 506. From hoard 4.
		*46.8 (3.03)↑c	Wallace EL 503. From hoard 4.
		44.5 (2.88)↑c	Wallace EL 504. From hoard 4. Broken.
		no weight ↑c	in trade, Athens, 1952.
132.	LVII-66:	58.0 (3.76)↑c	in the Eretria hoard of 1937.
		57.6 (3.73)↑c	in the Eretria hoard of 1937.
		56.8 (3.68)↑c	in private possession, Athens. From hoard 5.
		56.3 (3.65)↑c	in private possession, Athens. From hoard 5.
		56.0 (3.63)↑c	in the Eretria hoard of 1937.
		*52.0 (3.37)↑c	Wallace EL 486. From hoard 4.
		51.4 (3.33)↑c	Wallace EL 485. From hoard 4.

- 49.8 (3.23)↑c-f Wallace EL 217. From hoard 13.
 49.5 (3.21)↑c Wallace EL 111. From hoard 10.
 48.9 (3.17)↑c Wallace EL 487.
 no weight ↑c in trade, Athens, 1952.
 no weight ↑c in trade, Athens, 1952.
 no weight ↑c in trade, Athens, 1952.
133. LVII-67: 59.6 (3.86)↑c in the Eretria hoard of 1937.
 Incrusted. Obv. not certain.
 58.0 (3.76)↑c in the Eretria hoard of 1937.
 57.9 (3.75)↑c in the Eretria hoard of 1937.
 57.9 (3.75)↑c in the Eretria hoard of 1937.
 57.9 (3.75)↑c in private possession, Athens.
 From hoard 5.
 57.9 (3.75)↑c Wallace EL 145. From hoard 12.
 57.9 (3.75) Naville i, April 1921, 1500.
 57.7 (3.74)↑c in private possession, Athens.
 From hoard 5.
 *57.7 (3.74)↑c Wallace EL 180. Secured in 1951.
 57.7 (3.74)↑c in the Eretria hoard of 1937.
 57.6 (3.73)↑ Hart Coll. 2, Blackburn Museum,
 England.
 57.4 (3.72)↑c in the Eretria hoard of 1937.
 57.3 (3.71)↑c Wallace EL 146. From hoard 12.
 57.3 (3.71)↑c in the Eretria hoard of 1937.
 56.8 (3.68)↑c in the Eretria hoard of 1937.
 56.7 (3.67)↑c Wallace EL 120. From hoard 9.
 56.5 (3.66)↑c Wallace EL 119. From hoard 9.
 56.5 (3.66)↑c Wallace EL 163. From hoard 11.
 56.3 (3.65)↑c Wallace EL 144. From hoard 12.
 55.0 (3.56)↑c in private possession, Athens.
 From hoard 5.
 54.6 (3.54)↑c Wallace EL 214. From hoard 13.
 54.0 (3.50)↑ Mus. Naz., Naples, F 7677.
 53.4 (3.46)↑c Wallace EL 498. From hoard 4.
 53.1 (3.44)↑c Wallace EL 216. From hoard 13.
 52.6 (3.41)↑c Wallace EL 490. From hoard 4.
 52.5 (3.40)↑c Wallace EL 493. From hoard 4.
 52.0 (3.37)↑c Wallace EL 496. From hoard 4.
 51.7 (3.35)↑c Wallace EL 491. From hoard 4.
 50.9 (3.30)↑c Wallace EL 215. From hoard 13.
 50.9 (3.30)↑c Wallace EL 488. From hoard 4.
 50.9 (3.30)↑c Wallace EL 199. From hoard 14.
 50.8 (3.29)↑c Wallace EL 497. From hoard 4.
 50.8 (3.29)↑c Wallace EL 198. From hoard 14.

50.2 (3.25)↑c	Wallace EL 495. From hoard 4.
50.2 (3.25)↑	Professor D. M. Robinson. Hoard 4, no. 74.
49.7 (3.22)↑c	Wallace EL 489. From hoard 4.
48.6 (3.15)↑c	Wallace EL 494. From hoard 4.
48.0 (3.11)↑c	Wallace EL 499. From hoard 4.
45.7 (2.96)↑c	Wallace EL 492. From hoard 4.
45.7 (2.96)↑c	Wallace EL 500. From hoard 4. Broken.
no weight	K. Demetrios Sisilianos, Athens.
no weight	in trade, Athens, 1952.
no weight	in trade, Athens, 1954. From hoard 15.
no weight	in trade, Athens, 1954. From hoard 15.
no weight	in trade, Athens, 1954. From hoard 15.
no weight	in trade, Athens, 1954. From hoard 15.
no weight	in trade, Athens, 1954. From hoard 15.
no weight	in trade, Athens, 1954. From hoard 15.
?-?: 58.0 (3.76)	Spink's <i>Num. Circ.</i> (Aug. 1951), 47036.
54.5 (3.53)	Braunschweiger Münzverkehr 2, 1928, 574. Ref. is BMC 13; symbol is called "Eidechse" (lizard).

EARLY FRACTIONS

Number listed here – 8

Date – about 400–395 B.C.

Hemidrachms

- | | | |
|-----|-------------------------|--|
| 34. | XXII-19: *33.5 (2.17)↑c | Wallace EL 258.
Secured in Athens, 1952. |
| | 31.6 (2.05)↖ | British Museum, Mavrogordato Bequest no. 392. Secured in 1949. |
| 35. | XXIII-19: *30.8 (2.00)↙ | Paris, Cab. des Méd. Babelon II.3, 177, pl. 198, 25. Holed and worn. |
| 36. | XXIV-20: *23.4 (1.52)↖ | BM <i>Central Greece</i> 6, pl. xvii, 4.
Broken. |

37. XXV-21: *24.8 (1.61)↗ Ashmolean Museum, Oxford.
Evans Coll. Holed.

Diobol

38. XXVA-21a: *16.9 (1.10) Paris Cab. des Méd. Babelon II.3,
178, pl. 197, 26. Broken.

Obols

Group 1 – Head r., EY-B on rev.

39. XXVI-22: *8.8. (.57) Cast in Imhoof-Blumer's cast coll.,
Winterthur. Listed in his "Die
euböische Silberwährung," *Monats-
bericht der Pr. Ak. Wiss. Berlin*,
(1881) pp. 656–674.

Group 2 – Head r., EY on rev.

- 40 XXVII-23: *9.4 (.61)→ Copenhagen SNG 480. Pierced.
Lambros, 1889.

LATER FRACTIONS

Hemidrachms

Number listed here – 38

Group 1 – Head r., EY and bunch of grapes on rev.

134. LVIII-68: *30.0 (1.94)↘ British Museum, 1920.
135. LIX-69: 26.6 (1.72) Hirsch xx, Nov. 1907, 297.
*25.8 (1.67)↘ Wallace EL 30. Secured in 1944.

Group 2 – Head l., fillets follow cow's cheek on rev. High relief.

136. LX-70: *30.2 (1.96)↑ Copenhagen SNG 478. Lambros,
1908. Cow's head l.
137. LX-71: *28.6 (1.85)← Copenhagen SNG 479. Argyropoulos
1882. Cow's head r. Obv. die not
certain, and rev. not certainly same
as that of next two coins.
138. LXI-71: *30.1 (1.95) Lockett Coll. 1780.
Naville i 1921, 1501.
27.2 (1.76)↗ The Hague, 3715.

Group 3 – Head l., EY on rev.

139. LXII-72: *29.3 (1.90)↗ Newell Coll., ANS, New York.
140. LXIII-73: *28.9 (1.87)↘
27.8 (1.80)
no weight British Museum, 1947. Oman 247.
Paris, Cab. des Méd. Babelon II.3
182, and III.3, pl. cxcviii 5.
cast in Imhoof-Blumer's cast coll.,
Winterthur.
141. LXIV-74: 28.9 (1.87) Naville v, June 1923, 1951.
28.9 (1.87) Hess ccii, Oct. 1930, 2464.
*27.5 (1.78)← Wallace EL 28. Secured in 1944.

Group 4 – Head l., letters (?) in front of face.

142. LXV-75: *29.5 (1.91)↑?
29.0 (1.88)↑
*29.0 (1.88)↑
28.7 (1.86)↑? Hirsch xx, Nov. 1907, 300.
McClellan 5706, pl. 205, 8.
Munich. Letters (?) off flan.
Hirsch xiii, 1905, 1847.
Rhosopoulos.
143. LXV-76: *28.5 (1.85)↘
no weight
?-?: 28.7 (1.86)
28.6 (1.85)
no weight Wallace EL 510. Secured in 1954.
Hirsch xvii, Feb. 1907, 1791¹.
Hirsch xiii, 1905, 1848.
Rhosopoulos.
Hirsch xiii, 1905, 1849.
Rhosopoulos.
Hirsch xvii, Feb. 1907, 1791².

Group 5 – Head r., behind neck, E.

144. LXVI-77: 28.4 (1.84)↑n Wallace EL 513. Secured in 1955.
Rather worn.
28.4 (1.84) Naville xv, July 1930, 672.
27.9 (1.81)↘ BM *Central Greece* 15.
27.9 (1.81)↘ Lockett SNG 1781.
27.2 (1.76) Naville v, June 1923, 1952.
27.0 (1.75) Weber Coll. 3394.
*27.0 (1.75)↑n Wallace EL 92
(Naville v 1923, 1953).
25.9 (1.68)↘ BM *Central Greece* 16.
no weight ↑n L. Meletopoulos, Athens. Pierced.
no weight cast in Imhoof-Blumer's cast coll.,
Winterthur.
no weight in a private coll. in the U.S.A.

145. LXVII-77: *28.4 (1.84) Paris, Cab. des Méd., de Luynes 2021;
Babelon II.3, 183 & III.3,
pl. cxcviii, 6.
146. LXVIII-77: 27.3 (1.77) ↖ Fitzwilliam Museum, Cambridge,
SNG 2980; pierced.
*27.0 (1.75) ↖ Newell Coll., ANS. From Fay Coll.,
1921.
?-?: no weight Iseion hoard, Eretria (Noe, *Bibl.*² 401
= Bronze hoard 1 here) no. 353.

Diobols

Number listed here – 9

147. LXIX-78: 17.5 (1.13) Weber 3396.
Dracopoulos, Athens, 1891.
*16.7 (1.08) BM *Central Greece* 17, pl. xvii, 9.
148. LXIX-79: *17.0 (1.10) Paris, Cab. des Méd. Babelon II.3,
184 and III.3, pl. cxcviii, 7.
149. LXX-78: *18.5 (1.20) ↗ Vienna.
no weight cast in Imhoof-Blumer's cast coll.,
Winterthur.
150. LXXI-78: *18.1 (1.17) Paris, Cab. des Méd. Babelon II.3,
185 and III.3, pl. cxcviii, 8.
12.2 (0.79) Hunterian Coll. Eretria 2; pierced.
151. LXXI-79: *18.1 (1.17) BM *Central Greece* 18, pl. xvii, 10.
152. LXXII-80: *15.9 (1.03) L. Meletopoulos, Athens.

Obols

Number listed here – 4 (for early obols see p. 50)

Group 1 – Head r.; head and shoulder of cow, filleted.

153. *9.9 (0.64) ↗ Wallace EL 257. Secured in Athens, 1952.

Group 2 – Head r. or l.; cow's head without fillets.

154. *7.1 (0.46) BM London, 1947 (Oman 248). Pierced.
155. 10.5 (0.68) Weber 3395. Secured in Corfu, 1885.
156. 7.4 (0.48) Coin mentioned in Imhoof-Blumer's "Die euböische
Silberwährung," *Monatsbericht der Pr. Ak. Wiss.*
Berlin (1881) pp. 656–674. Nymph's head l., wearing
earring and necklace.

Hemiobols

Number listed here – 3

Group 1 – Head r.; cow's hoof, EY above.

157. *4.1 (0.27) Coin mentioned by Imhoof-Blumer in 1881 (see ref. above); weight given in his *Monnaies grecques* (Leipzig 1883) p. 224.

Group 2 – Head l.; cow's split hoof, E-Y

158. *4.1 (0.27) Hirsch xiv, Nov. 1905, 374.
159. 3.9 (0.25) Hirsch xxv, Nov. 1909, 916. Philipson Coll.

UNCERTAIN DENOMINATIONS

(see p. 111)

1. *22.4 (1.45) Copenhagen SNG 481. Heldreich 1872. See PLATE XII, 1.
2. *no weight cast in Imhoof-Blumer's cast coll., Winterthur.
See PLATE XII, 2.

PLATES

CONTENTS



Looking east towards Mt. Kotylaion



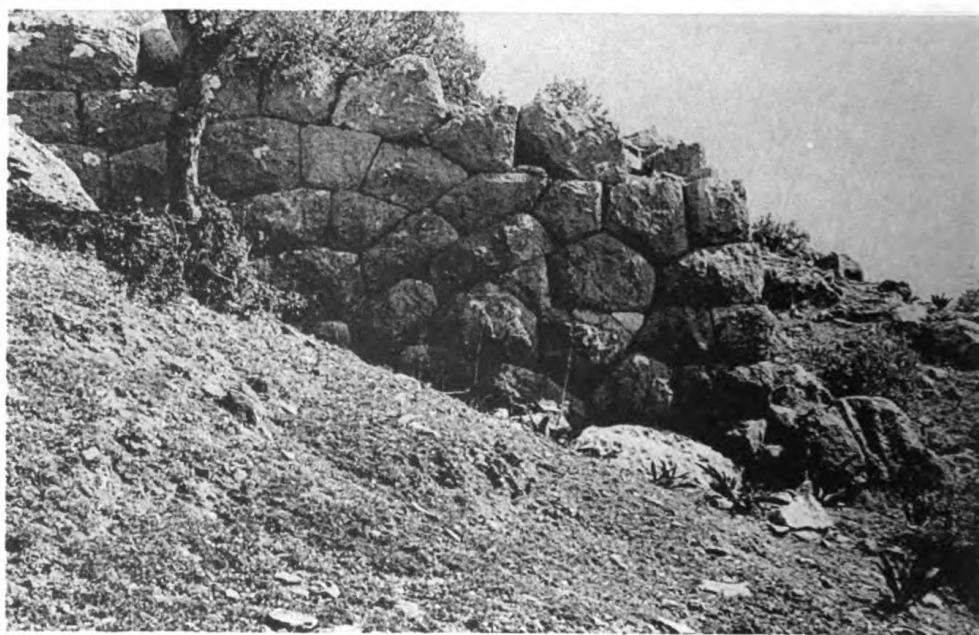
Looking north towards Eretrian Mt. Olympos

THE ERETRIAN PLAIN FROM ERETRIA'S EASTERN WALL

II

Mt. Olympos

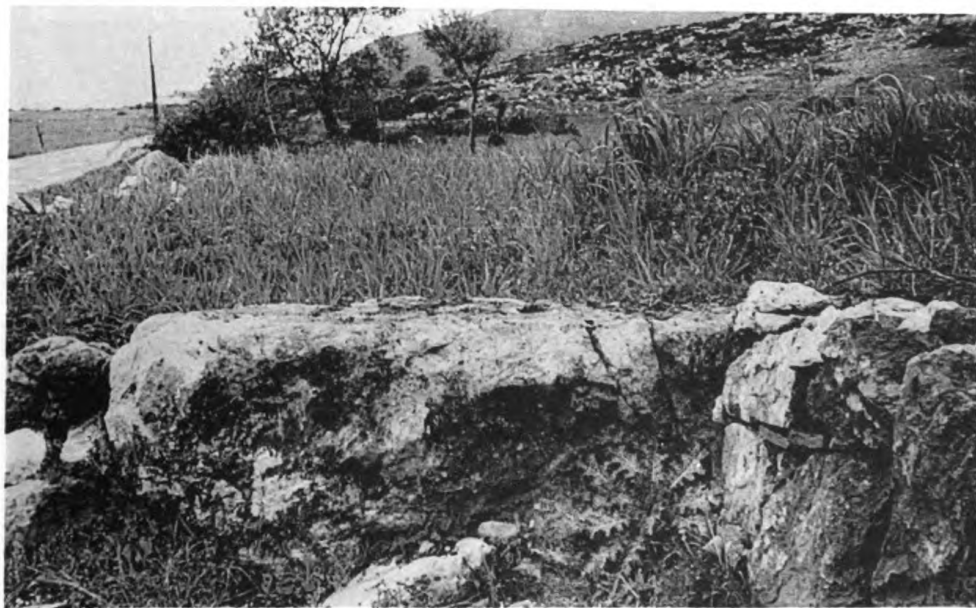
Mt. Kotylaion



TOWERS ON THE ERETRIAN ACROPOLIS



1. From the road. Arrow shows viewpoint of 2.

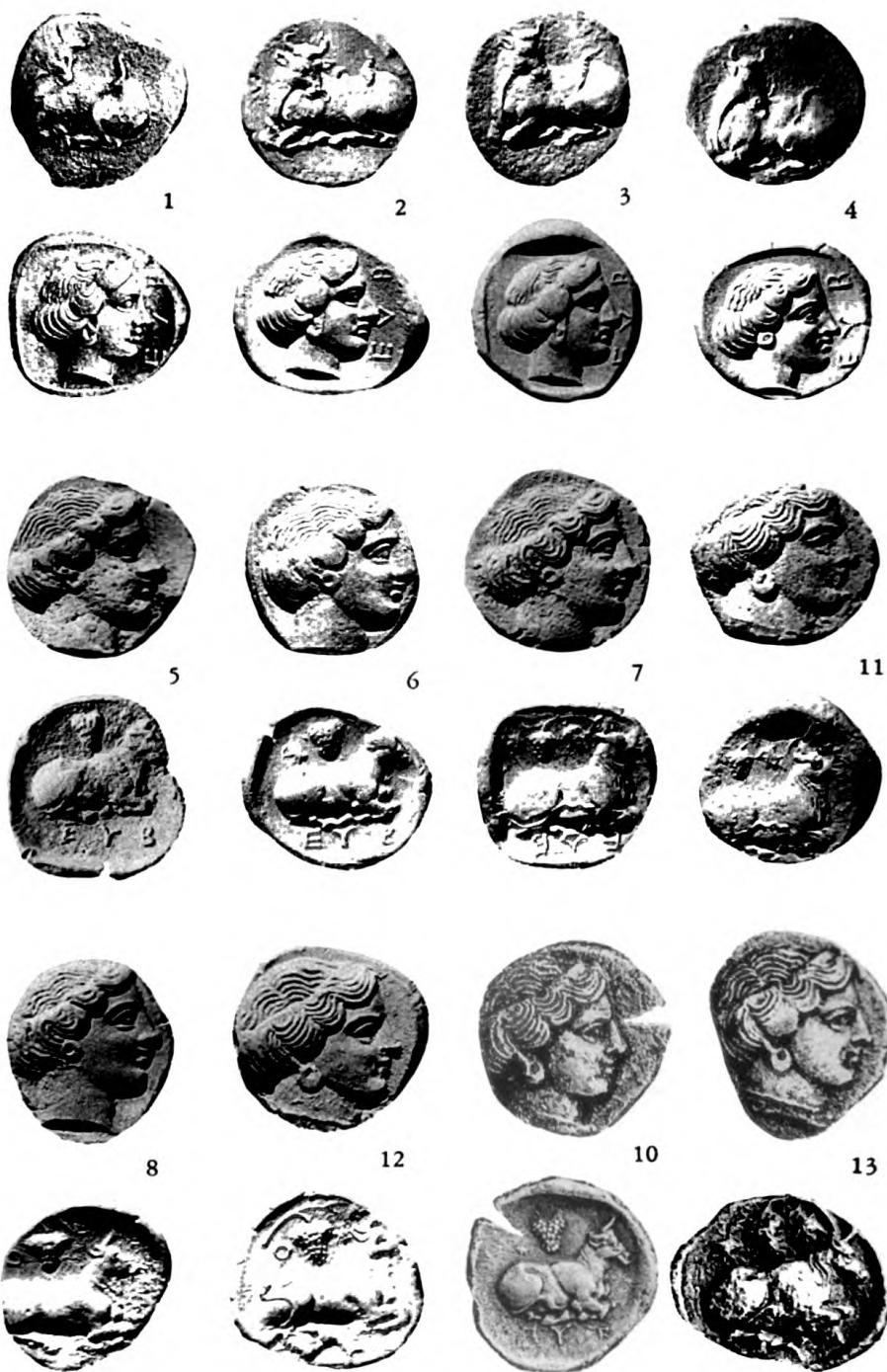


2. From the east. Mt. Kotylaion is seen at top.

KOTYLAION FORT (?)

(See page 43)

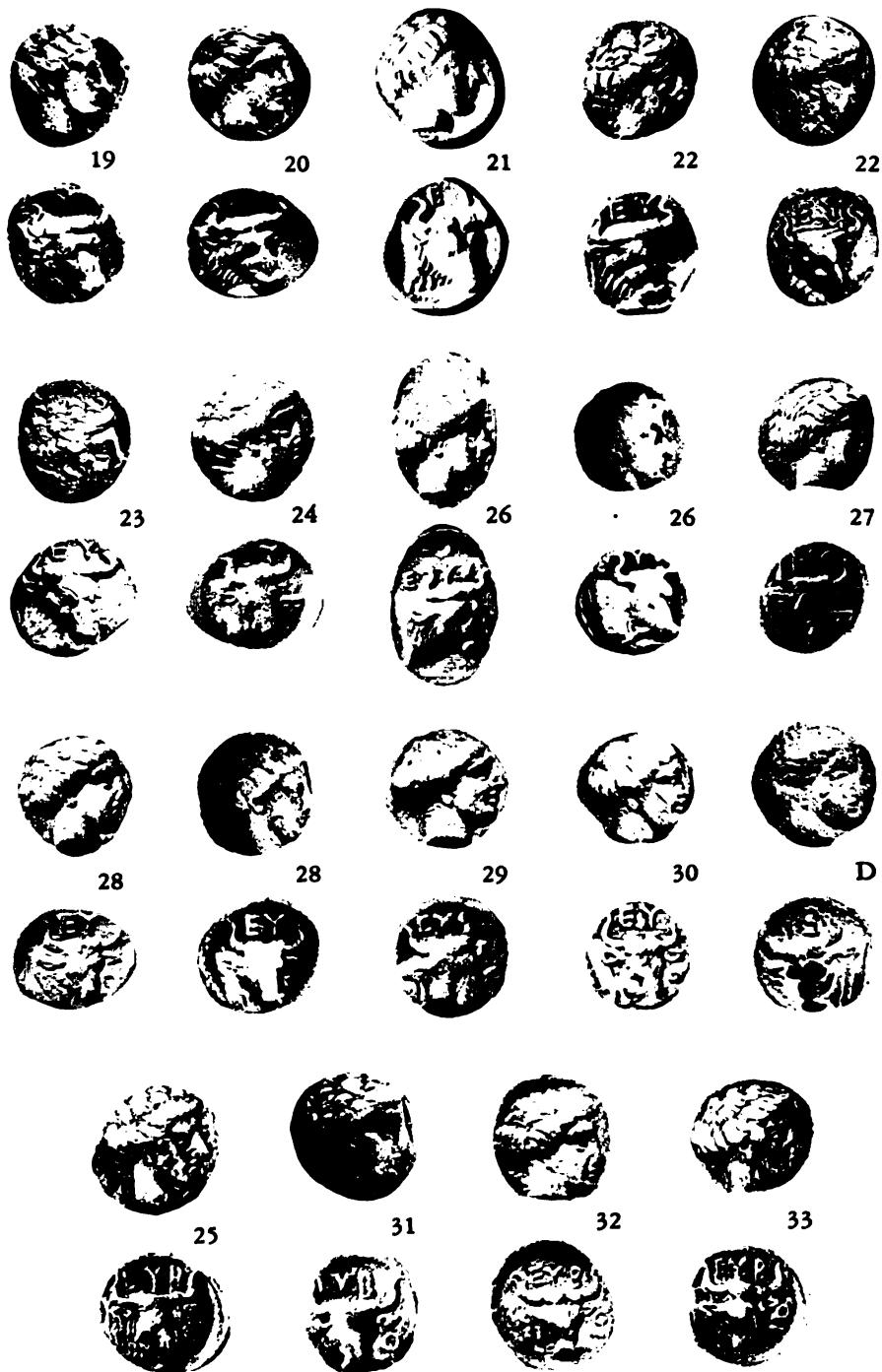
IV



AIGINETIC DIDRACHMS



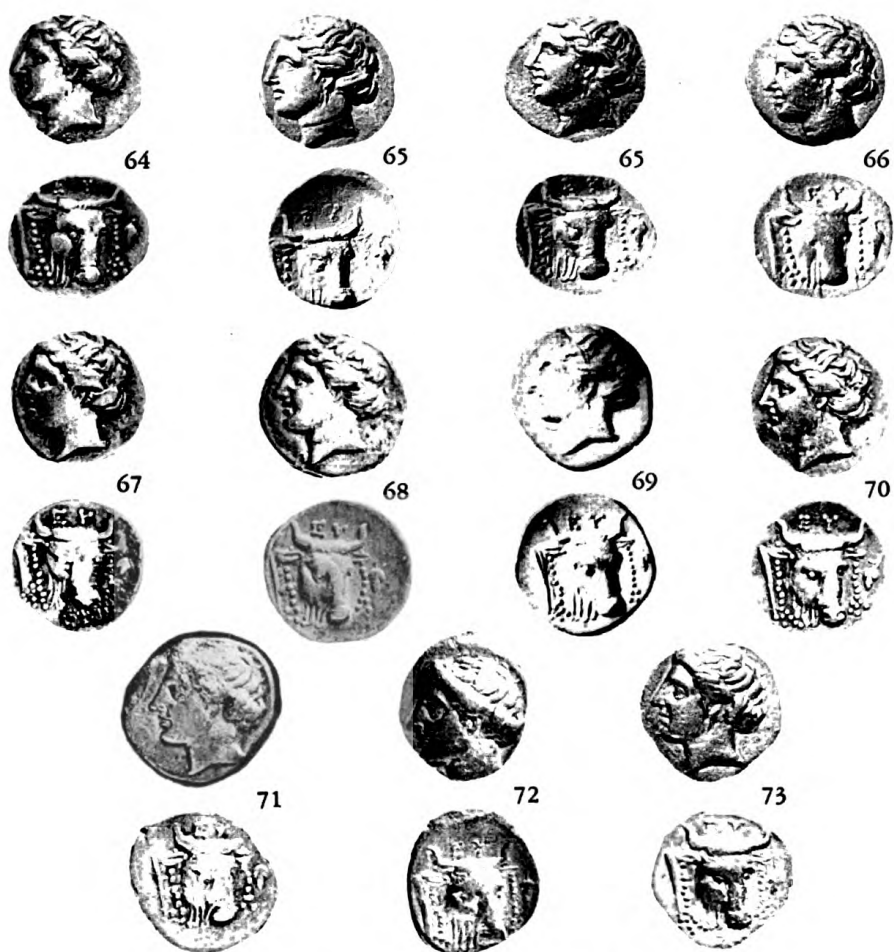
TETRADRACHMS



DRACHMS OF ATTIC WEIGHT

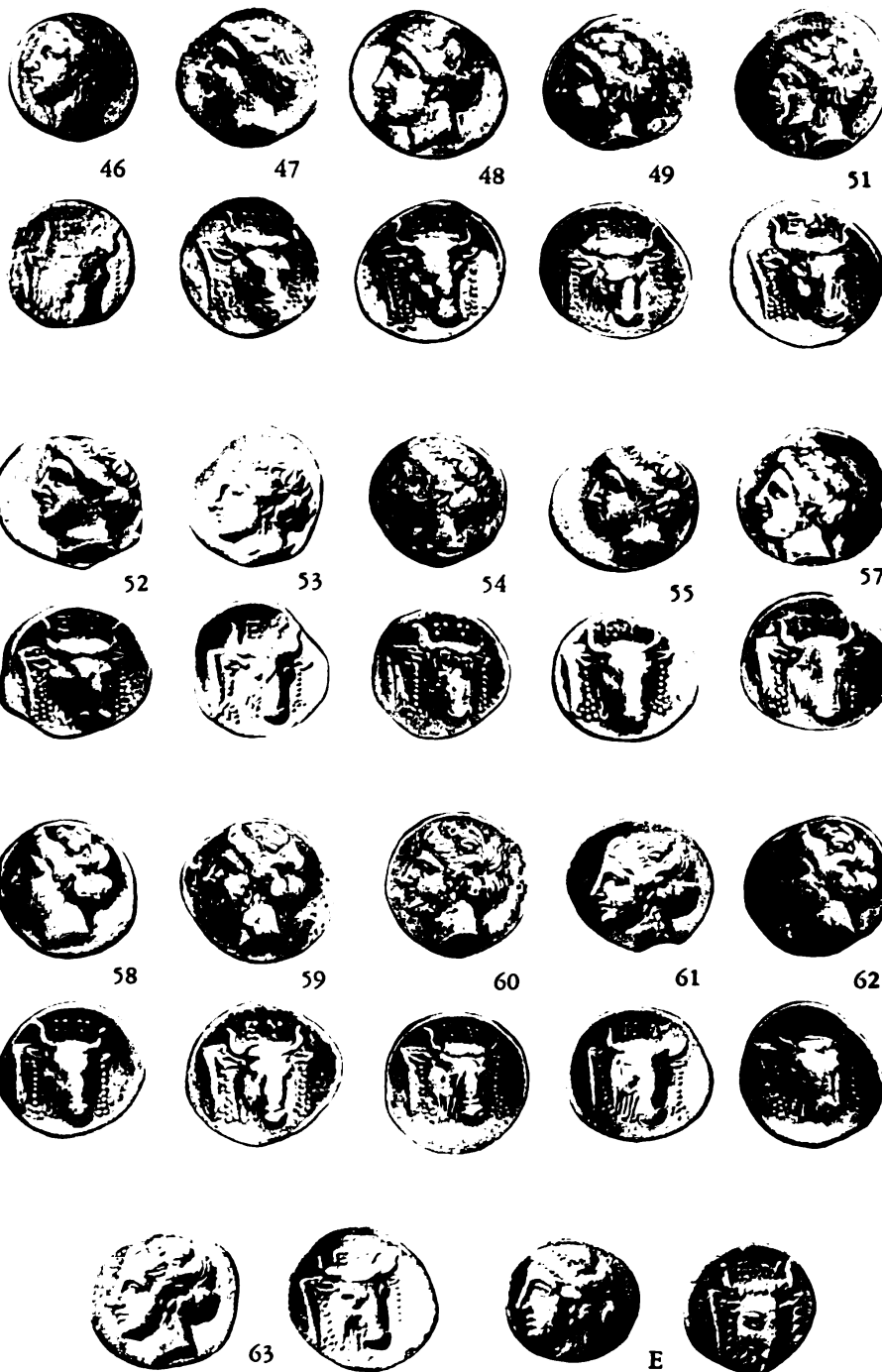


DRACHMS IN HIGH RELIEF



DRACHMS WITH GRAPES SYMBOL

VIII



DRACHMS WITHOUT SYMBOL

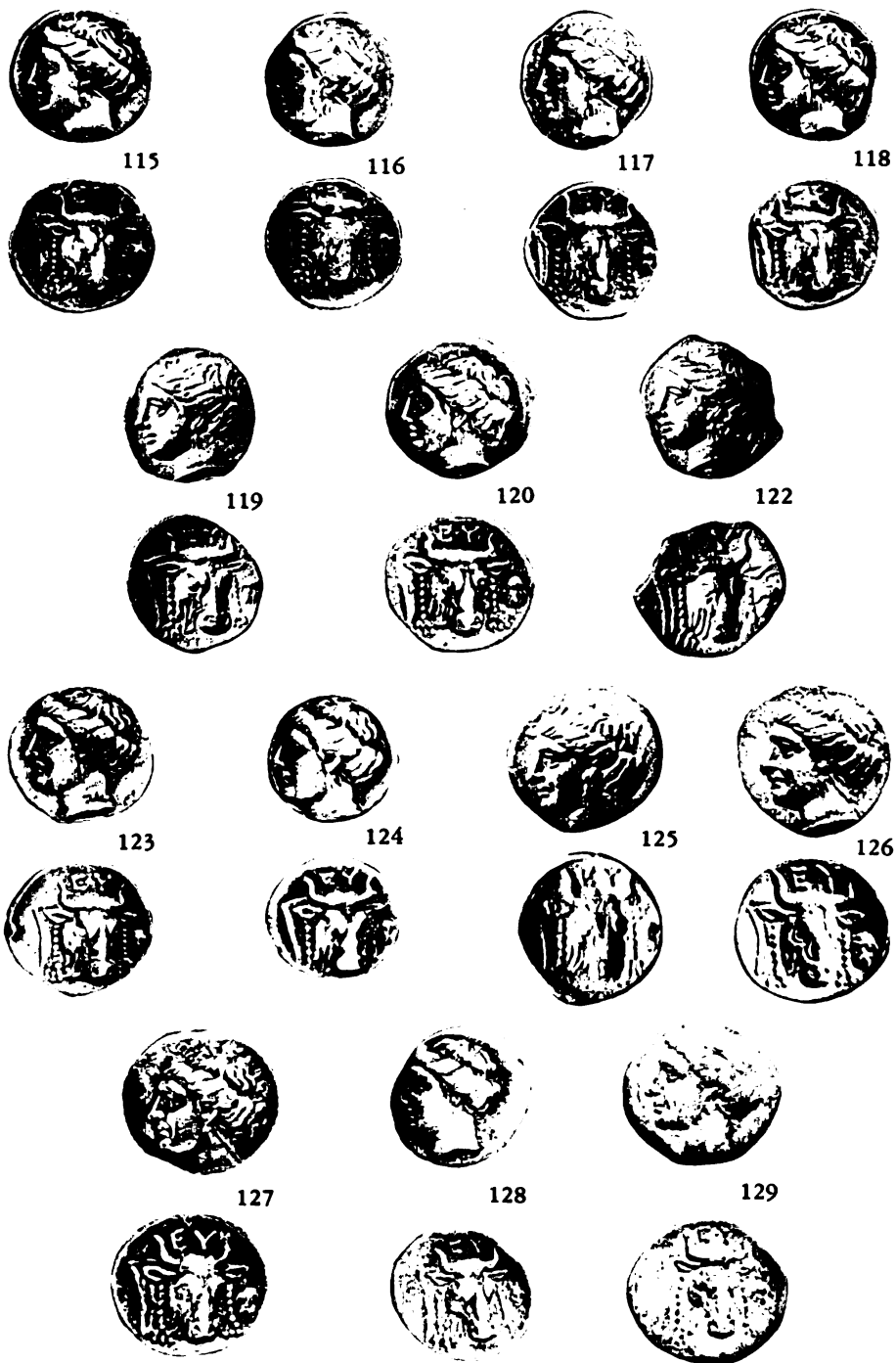


DRACHMS WITH KANTHAROS SYMBOL

X



DRACHMS WITH LYRE SYMBOL

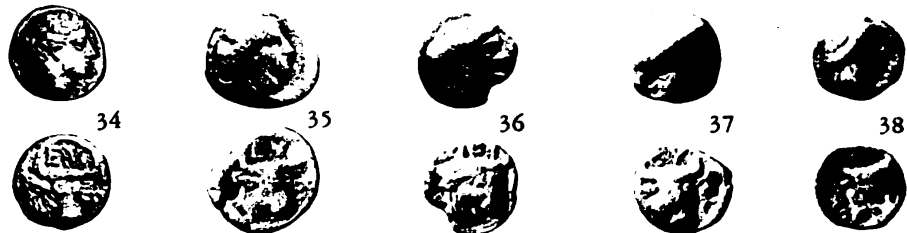


DRACHMS WITH SATYR'S HEAD SYMBOL

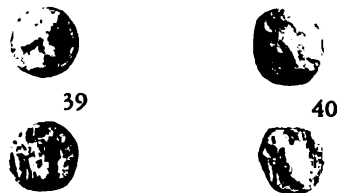
XII



Drachms with dolphin symbol



Early hemidrachms and diobol

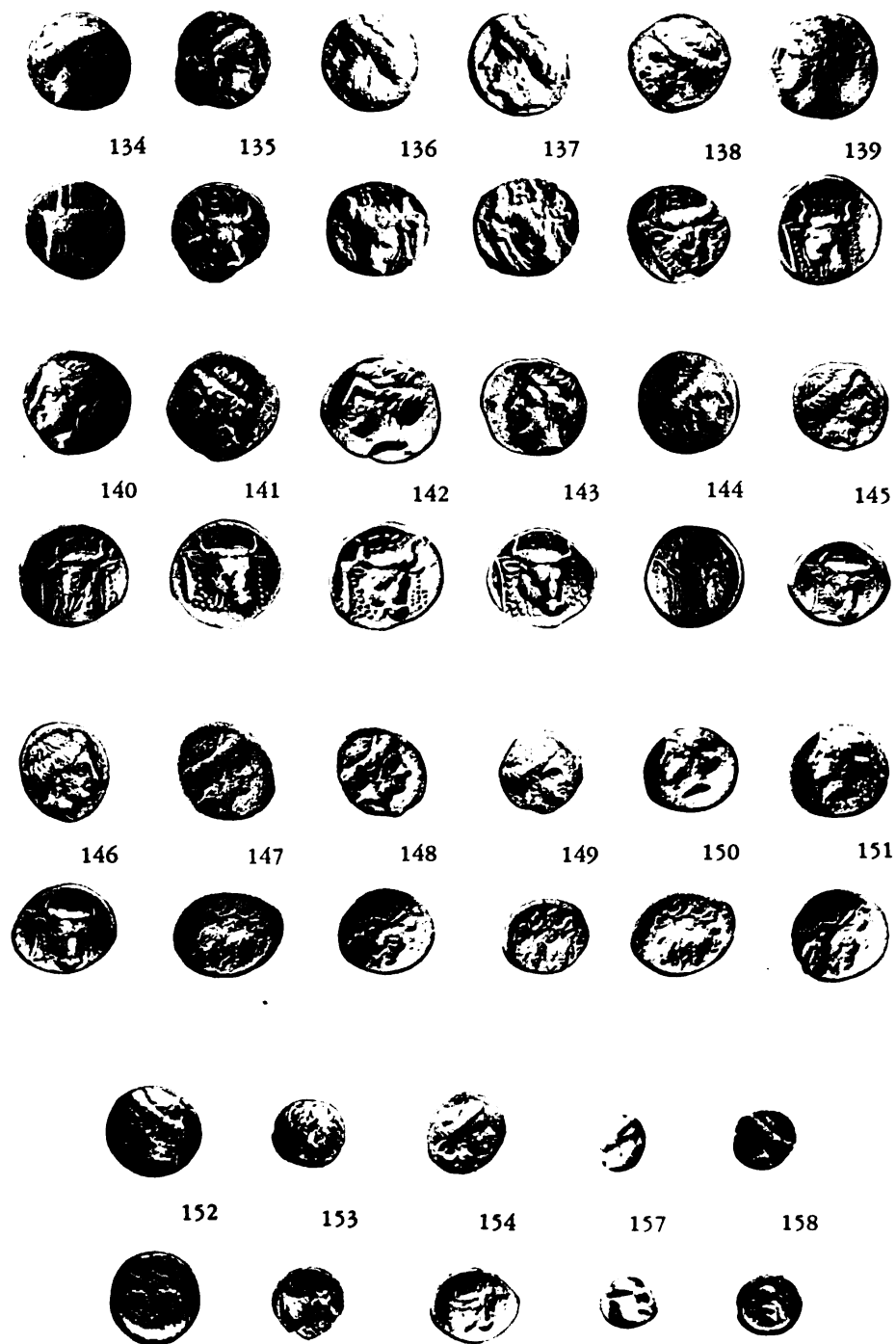


Early obols



Uncertain denominations

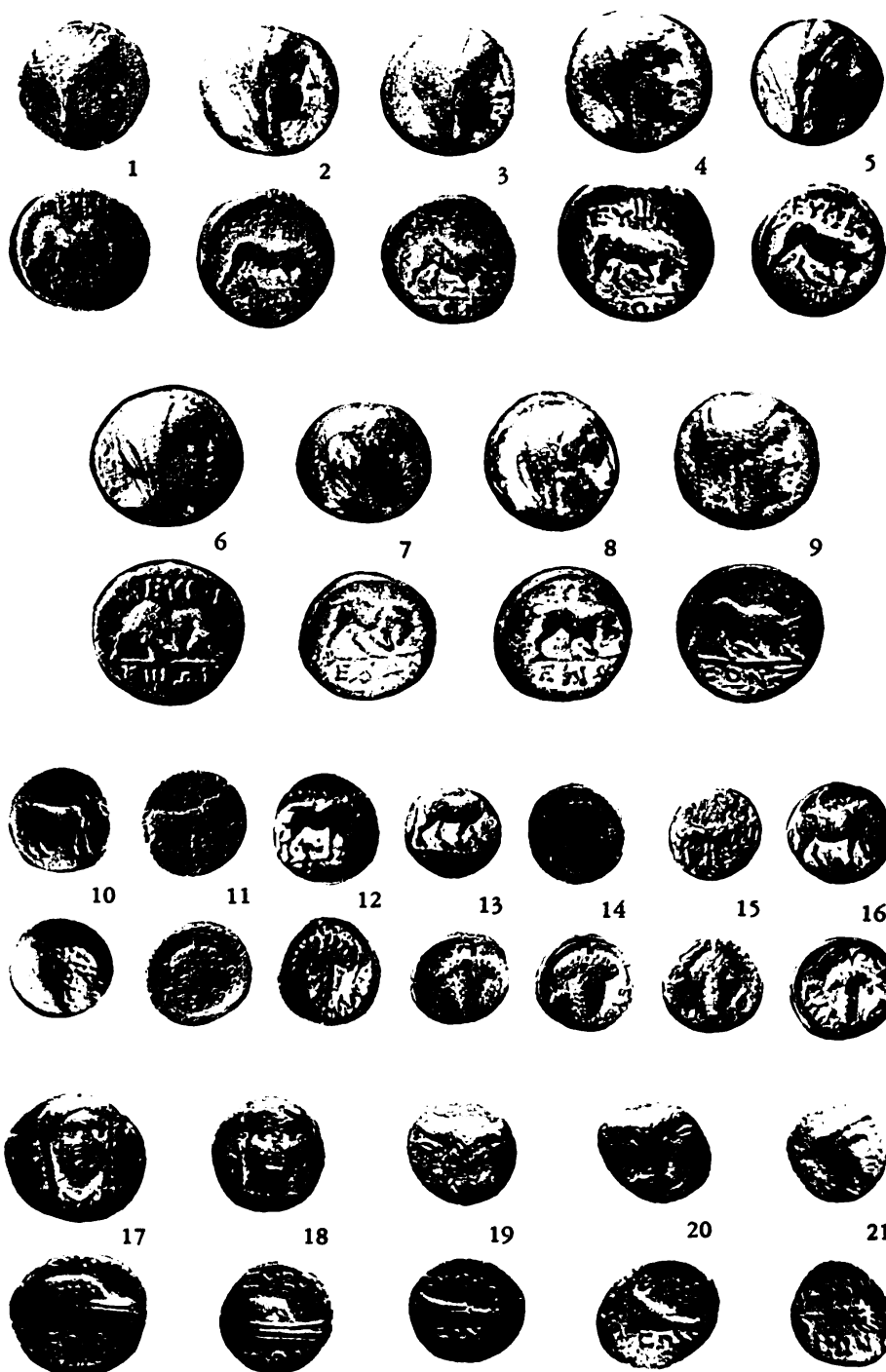
DRACHMS WITH DOLPHIN SYMBOL AND EARLY FRACTIONS



LATER FRACTIONS



BRONZE ISSUES



BRONZE ISSUES

XVI



10



16



44

TWO-DIAMETER ENLARGEMENTS

25
15
44
135

AMERICAN NUMISMATIC SOCIETY, ~~New York~~
NUMISMATIC NOTES AND MONOGRAPHS

No. 135

COINAGE FOR COLONIAL VIRGINIA

By ERIC P. NEWMAN

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THE AMERICAN NUMISMATIC SOCIETY

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1956

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NUMISMATIC NOTES AND MONOGRAPHS

Number 135

NUMISMATIC NOTES AND MONOGRAPHS
is devoted to essays and treatises on subjects relating
to coins, paper money, medals and decorations.

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Coinage for Colonial Virginia

By ERIC P. NEWMAN



THE AMERICAN NUMISMATIC SOCIETY

BROADWAY AT 156TH STREET

NEW YORK

1956

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00
15
A44
no. 135

DEDICATED
TO
MY WIFE EVELYN
WHO, PROPHETICALLY, WAS
WEARING A NECKLACE OF COINS
WHEN WE FIRST MET

CONTENTS

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THE UNIQUE STATUS OF VIRGINIA HALFPENCE

Virginia halfpence of 1773 have the unique distinction of being the only fully authorized coins with legal tender status which were specifically minted for all or any part of the English colonies which became the United States of America.

To justify such an assertion it must be realized that Massachusetts Bay Colony had authorized and established a mint for its own silver coinage in 1652 when there was political confusion in England as to colonial control, but subsequently the colony had years of controversy over the coinage because the action was taken and continued without the necessary approval of the English Crown;¹ that the Lord Baltimore coinage for Maryland although originally forced into circulation by a Maryland act passed April 12, 1662, was not made legal tender and after the Mint clerk in London had confiscated all dies and available coin Lord Baltimore was required to appear before the English Council of State for having privately ordered the coinage without the permission of the Crown;² that the tin American Plantation 1/24th real coinage was minted in 1688 without royal objection,³ but had neither royal approval nor any legal tender status; and that the Rosa Americana coinage for American circulation was minted pursuant to a patent granted by the Crown to William Wood on July 12, 1722, but legal tender

¹ Sylvester S. Crosby, *The Early Coins of America*, (Boston, 1875), pp. 76 f.; Sir John Craig, *The Mint*, (Cambridge, 1953), p. 377.

² Sir John Craig, *The Mint*, p. 376. *American Journal of Numismatics*, Vol. XX (1886), p. 56.

³ Eric P. Newman, "The First Documentary Evidence of the American Colonial Pewter 1/24th Real," in *The Numismatist*, Vol. LXVIII (1955), p. 713. A recent chemical analysis has shown that original specimens of this coin contain no metal other than tin.

status was specifically denied. All other coinages made for American colonial use prior to the American Revolution appear to be unofficial token money.

Curiously enough it was not until 1892 that Tatman⁴ pointed out that the Virginia halfpenny had any official authorization whatsoever, as Dickeson, Crosby, Atkins, Dye and other outstanding numismatic writers knew nothing about its background and in their publications had assumed that it was a token from a private source. Tatman's pamphlet was limited to its legal authorization. Extensive studies in the economic history of Virginia have included much material on the paper money of Virginia,⁵ but have not encompassed the history of the Virginia copper coinage.

The story of the procurement of copper halfpence for Virginia is a series of frustrations arising in spite of continued efforts of Colonial Virginia to have an opportunity to try out the use of copper money for small change in an honest and dignified manner. It shows how delays in communication, political changes, protocol, misunderstandings and economic trends rendered ineffective one hundred and thirty years of careful effort to secure a copper coinage and by the time the coinage was finally obtained many Virginians must have had one more logical reason to believe in the need for an independent government.

⁴ Charles T. Tatman, "The Virginia Coinage," in *Plain Talk*, (New York, 1892); Reprinted separately (Worcester, Mass., 1894); Reprinted in *The Numismatist*, Vol. XXIV (1911), p. 233.

⁵ William Z. Ripley, *The Financial History of Virginia, 1609-1776*, (Columbia University Studies in Historical and Political Science, Vol. IV, No. 1, New York, 1893); "Paper Money in Colonial Virginia," in *William and Mary Quarterly*, Vol. XX, pp. 227-262; Richard T. Hooper, "Financial History of Colonial Virginia," *The Numismatist*, Vol. 66 (1953), p. 1138; Henry Phillips, Jr., *Historical Sketches of the Paper Currency of the American Colonies* (Roxbury, 1865), pp. 191f.

EARLY ATTEMPTS TO OBTAIN COPPER COINAGE

In section 10 of the Virginia Charter of April 10, 1606, the patentees were authorized to "establish and cause to be made a coin, to pass current there (Virginia) between the people of those several colonies (in Virginia), for the more ease of traffick and bargaining between and amongst them and the natives there, of such metal, and in such manner and form, as the said several councils there shall limit and appoint." No use of this power was ever made.

The introduction of royal farthing tokens in Virginia was recommended by Sir John Harvey, Governor of Virginia, in a letter dated June 26, 1636, to Secretary Sir Francis Windbank, so that there would be a means of paying labor during the period before the tobacco crop was picked. In due course Charles I proposed to the Virginia Assembly that the royal farthing tokens which were currently in circulation in England should pass in Virginia and that Henry Howard, Lord Maltravers, who owned a patent granted by the Crown to make and sell royal farthing tokens in England, should furnish such tokens in exchange for products of Virginia which were salable in England. The few existing records of the 1637-8 Assembly of Virginia show that the Colonists felt that "said farthings are very much under the value of them in copper", that they would be readily counterfeited and that tradesmen and others would be disheartened to accept coin which was not "somewhat neere the value" of its metal content. Actually the intrinsic value of royal farthing tokens was only 5% of their circulating value in England and counterfeiting them there was a common practice. Instead, the

Virginia Assembly requested £5000 per year in an issue of silver coin which would allow 10% profit to those who furnished it. The Crown, nevertheless, in 1638, granted a license to Lord Maltravers to coin farthing tokens for the foreign plantations and on February 16, 1639 granted a license to export English, Irish and Welsh farthing tokens to all plantations except Maryland.⁶ No farthing tokens for America were coined and there is no evidence that royal farthing tokens circulating in the British Isles were sent to America.

Although the value of foreign gold and silver coin as used in commercial transactions was regulated by law, by decree or by the merchants from time to time, no copper coin of any kind circulated in Virginia prior to the distribution of 1773 Virginia halfpence.⁷ Beginning in the early part of the eighteenth century, English copper halfpence and farthings had been growing in use in the natural course of trade in the northern American colonies without royal objection, but Virginia apparently felt that prior royal approval was necessary. Virginia therefore, from time to time officially sought the same privilege.

⁶ *Journals of the House of Burgesses of Virginia, 1619-1658/9*, edited by H. R. McIlwaine (Richmond, Virginia, 1915), pp. 57f; *Calendar of State Papers, Colonial Series, 1574-1660*, edited by W. Noel Sainsbury (London, 1816), pp. 238, 266, 285, 290; Thomas Snelling, *A View of the Copper Coin and Coinage of England*, (London, 1766), p. 9.

⁷ Two specimens are known of a brass shilling token privately issued in 1714 by someone named Dawson in Gloucester County, Virginia. It is described as a pattern and illustrated in Sylvester S. Crosby, *Early Coins of America*, page 323 and Plate IX, No. 4. Although not fully readable, it has been tentatively attributed to Ric(hard) Dawson, whose existence has not been confirmed. It may be that the token was issued by a partnership having a name such as Richeson & Dawson, since the names, Peter Richeson and Samuel Dawson, appear separately in Gloucester County records of the period. In the writer's opinion this coin is brass token money rather than a pattern to be struck in silver.

On November 20, 1645, the colony passed an act to permit the coinage of 10,000 pounds avoirdupois of copper in denominations of 2, 3, 6 and 9 pence in order to drive tobacco out of circulation as a medium of small change. One pound weight of copper was to circulate for £1 currency even though the copper cost was only 18d and the coining cost was estimated at 12d. Copper coin therefore was to pass for $13\frac{1}{3}$ times its intrinsic value. The coins were to have two rings, one for a motto and the other for an annually changing figure to be counterstamped on the coins by appointees in each county. No such coins were issued.⁸

An act passed by the Colony of Virginia in the October session of 1710 provided that if her Majesty Queen Anne would permit copper coin to be brought into Virginia it would circulate for the same amount as it does in Great Britain, but no one should be required to accept over 2 shillings 6 pence in copper in payments over 20 shillings or over one shilling as part of a lesser payment.⁹ No copper was then being coined in England and the proposed circulation in Virginia was presumably to come from English copper coin in general circulation in England. The law requesting copper coin for Virginia was reenacted by the Virginia assembly in 1727 when the administration of George II had come into power.¹⁰ Nothing resulted from either solicitation.

A suggestion for an American series of coins in various metals was promulgated by Robert Dinwiddie during his term as Lt. Governor of Virginia, when, in a letter dated

⁸ Sylvester S. Crosby, *The Early Coins of America*, p. 21; W. W. Hening, *Statutes at Large of Virginia* (Richmond, New York, Philadelphia, 1819-23), Vol. I, p. 308, 20th Charles I, Act XX, 1645.

⁹ W. W. Hening, *Statutes at Large of Virginia*, Vol. III, p. 503, 9th Anne, Chap. X, 1710.

¹⁰ W. W. Hening, *Statutes at Large of Virginia*, Vol. IV, p. 218, 1st George II, Chap. IX, 1727.

February 23, 1756, to the Lords of Trade¹¹ proposing poll and land taxes in America, he pointed out the mutual advantages of a separate coin for the American colonies as a whole:

There is an Affair occurs to me th't will make some Difficulties in rais'g the above Taxes, w'ch is the great Scarcity of Silver and Gold. As Provis's of all kinds will be wanted, those Colonies th't cannot pay in Money may they not supply Provis's in lieu of Cash? and to be charg'd at the Curr't Price they are sold for? But th's I submit to Y'r Superior Judgem't, or if tho't proper th't the Money sh'd be coin'd at home for Paym't of all the officers, Civil and Military, to be sent annually to the different Colonies, th't the Money so coin'd may be with Incriptions, as may be tho't proper, to distinguish it from American Curr'cy. This the French have practiced for many years. The Gov't may save 5 p. c't on the Coinage, and be at no more charge th'n at pres't in pay'g the Salaries, etc., at Home, and the Advantage the Colonies w'd reap is plain, by hav'g so much Money sent over to them annually, and qualifie them to pay the above Taxes in Cash, and in a few Years w'd put an end to all paper Curr'cy, so much complain'd of by the merch'ts at home and the subjects, * * *

After George III was crowned in 1760 he became interested primarily in gold coinage and England did not issue copper coins with his bust until 1770. In anticipation of his new copper coinage a fourth legislative attempt was made in Virginia by the passage on December 20, 1769, of an act providing that, subject to the consent of George III, the treasurer of the colony was authorized to purchase on behalf of the colony English copper coin at its circulating value in the amount of £2500 sterling. The copper coin was to be paid out or exchanged for other coin at the Virginia treasury at established exchange rates "for the greater conveniency of change in small payments," but was to be legal tender in Virginia currency only up to the amounts designated in prior

¹¹ *The Official Records of Robert Dinwiddie, (Collections of the Virginia Historical Society, New Series, Vol. IV, Richmond, 1884), p. 341.*

Acts.¹² This request was intended to be modest, as it could be fulfilled with regular English copper coin either from circulation or newly minted since no special Virginia issue was being sought. Applicable portions of the Act are set forth in Appendix A hereof.

Robert Carter Nicholas, Treasurer of the Colony of Virginia, promptly wrote from Williamsburg on December 28, 1769, to John Norton¹³ in London:

Our Countrymen are desirous of introducing Copper Money amongst us & in the last Assembly address'd the Governor to intercede with his Majesty to allow it to be current. So soon as the King's proclamation appears for that Purpose, I am directed to import as many half Pence as £2500 st. will purchase; but as I am pretty much a Stranger to a thing of the Sort, I should be glad of your advice, in the mean Time, how it is to be procured upon the best Terms.

¹² W. W. Hening, *Statutes at Large of Virginia*, Vol. VIII, p. 342, 10th George III, Chap. XII, 1769.

¹³ *John Norton & Sons, Merchants of London and Virginia*, edited by Frances Norton Mason, (Richmond, 1937), p. 115; Manuscript in the Archives of Colonial Williamsburg, Inc.

VALUATION DIFFICULTIES

Virginia authorized its first issue of paper money in May, 1755, because of the needs arising in the course of the French and Indian War.¹⁴ Prior to that time commercial transactions in Virginia were contracted for and calculated in "current money" of Virginia which was a money of account consisting of pounds, shillings and pence which had a value different and distinct from those same designations as used in England or in each of the other American colonies. There were no actual Virginia coins or Virginia paper currency with which to make payments in current money of Virginia. In order to settle an amount due, current money had to be converted by calculation into an equivalent in tobacco at a price determined officially or by trade, or into credits in English or other foreign exchange or into Spanish or other foreign coin. After Virginia paper money was issued in denominations of Virginia pounds and shillings, an obligation in current money of Virginia could always be settled by payment of Virginia paper currency.

The current money of Virginia during the portion of the eighteenth century prior to the American Revolution varied substantially in exchange value, weakening to as much as 60% in excess of sterling exchange and strengthening to as little as 15% in excess of sterling exchange.¹⁵ However, during much of the time 6 Virginia shillings or 4 shillings 8 pence sterling were equivalent to a Spanish dollar,¹⁶ thus

¹⁴ W. W. Hening, *Statutes at Large of Virginia*, Vol. VI, p. 467, 28th George II, Chap. II.

¹⁵ Jamieson Papers, Library of Congress, Vol. XVII, p. 4011.

¹⁶ J. Wright, *The American Negotiator or the Various Currencies of the British Colonies in America*, (London, 1761 and subsequent editions), p. vi; *Gaine's Universal Register*, New York, 1775, p. 148.

requiring about 25% more current money of Virginia to be equivalent to sterling. On this basis it would have been natural for English halfpence to pass for $\frac{5}{8}$ pence in current money of Virginia and English farthings, if introduced, for proportionately less. One obvious difficulty in circulating English copper in Virginia would have been the confusion and instability caused by fluctuations of the exchange differential. English copper coins would have had to remain at the same circulating value regardless of variations in the exchange and persons accustomed to a fluctuating exchange cannot readily accept adjustments in foreign specie coin and not in foreign copper coin.

In 1748 the scale of fees payable by ships arriving in Virginia was in sterling, with the legal right to collect only 25% more if discharged in Virginia exchange and court judgments based upon contracts payable in sterling could be satisfied by 25% more in such Virginia exchange.¹⁷ During periods of instability of Virginia exchange, payments were generally made or credited in that medium, prejudicing the Colonial government and private merchants with respect to their sterling balances constantly due in England. However, in 1755 the fixed exchange differential was repealed and the courts were given discretion to collect for a creditor more than 25% differential in current money of Virginia in cases where that appeared to be the fair thing to do.¹⁸ In 1761 the differential was steady at 25% (see note 16), but by May, 1764, it had fallen to 60% (see note 15). In 1767, after the mismanagement of John Robinson as Virginia Treasurer and the laxity of his tax collectors had been corrected by a new regime, Virginia began to retire the 54,391 pounds 5 shillings in its

¹⁷ W. W. Hening, *Statutes at Large of Virginia*, Vol. V, p. 540, 22nd George II, Chap. XII, 1748; Vol. VI, p. 97, 22nd George II, Chap. XXXVI, 1748.

¹⁸ W. W. Hening, *Statutes at Large of Virginia*, Vol. VI, p. 478, 28th George II, Chap. VII, 1755.

outstanding paper currency. Under the efficient control of Robert Carter Nicholas, as Treasurer, the colony by November, 1769, was in a secure enough financial position to issue 10,000 pounds of Virginia paper money at a time when its rate of exchange was the strongest on the American continent and sterling was only subject to a 20% premium in calculating Virginia exchange, and the differential was said to be about to fall to 15%.¹⁹ The anticipated strengthening of Virginia exchange to 15% promptly became a reality and was commented upon in London because it was recalled that it had once been 50%.²⁰ The 1769 request for copper money was a definite effort toward stabilization of Virginia money by the introduction of more coin into circulation.

The coinage committee of the Virginia House of Burgesses realized that British halfpence should circulate for about 19 to the Virginia shilling as compared to 24 to the English shilling and reported on May 25, 1770, “** as to the Copper Money, which we desire to have circulated among us, our humble request is that it may be current here as in Great Britain allowing for the Difference between Sterling Money and the Currency of this Colony at the Rate of Twenty-five per Cent.”²¹

Another difficulty in the introduction of copper coin was the risk of its unacceptability because of its lack of sufficient intrinsic value. Gold and silver coins always circulated for the full value of their metal content and so long as the value of current money of Virginia was weak, gold and silver in the colony would tend to be used for payments outside Virginia. Copper coin, if in circulation, would not have a tendency to

¹⁹ Letter dated November 5, 1769 from James Balfour to John Norton; *John Norton & Sons, Merchants of London and Virginia*, p. 110.

²⁰ News from London published in *Virginia Gazette* of April 19, 1770.

²¹ *Journals of the House of Burgesses of Virginia*, edited by John Pendleton Kennedy, (Richmond, Virginia, 1906), 1770-1772, p. 17.

be so withdrawn, because its circulating value would be fixed far above its intrinsic value.

Sir Isaac Newton during his tenure as Master of the Royal Mint in England promulgated the theory about 1713 that the value of copper metal in copper coin plus the cost of the manufacture and issue of such coin should equal the value at which copper coin passes in circulation.²² This theory was still being adhered to at the time circulation of copper coin in Virginia was being considered. Since the cost of manufacture and issue in England was almost equal to the metal value of a copper coin the intrinsic metal value of the coin was about half of its circulating value. For that reason the acceptability of copper coin in Virginia was always questionable and reasonable limitations on the amount usable as legal tender were included in the Virginia legislation.

For the reasons above set forth, considerable thought was given in England to the Virginia request. In a letter dated February 11, 1771, from Lord Hillsborough (Wills Hills, Secretary of State for the American Colonies) to William Nelson, president of the Legislative Council of Virginia,²³ a tactful indication that standard English copper coinage was not proper for Virginia was expressed:

The Request of the Colony for a Circulation of British Copper Coin will still want some farther Explanation before any Resolution can be taken upon it.

"The inclosed Papers will inform you of the Method which has been pursued for some Years for supplying the Kingdom of Ireland with Copper Coinage, and which has given Satisfaction & been of great Service to the Inhabitants of that Country. It may not be improper to communicate them to the Council & I shall be very glad if they may suggest any proposition that may have the effect to produce what seems so much wished for by His Majesty's Subjects in Virginia.

²² Sir John Craig, *The Mint*, p. 220.

²³ English Public Records Office, London, C. O. 5-1349, p. 87-9.

The papers enclosed, as explained by subsequent correspondence, apparently included one or both of the Royal Warrants of George II, dated January 26, 1732, and August 17, 1738, respectively, authorizing a special coinage of copper halfpence for Ireland on the basis of 52 weighing one pound avoirdupois. The inference of the enclosures was that Virginia should not circulate English copper coin but should have a copper coinage of its own.

At that time Irish exchange was, like Virginia's exchange, depreciated with respect to sterling. However, it required $8\frac{1}{3}\%$ more Irish currency to equal the value of a sterling unit. Irish halfpence had been coined weighing 52 to the pound since 1733 and English halfpence had weighed 46 to the pound since 1717. Decreases in the price of copper had not been deemed sufficient to adjust the weight of the coins in accordance with Newton's theory. Uniformity of coin was considered more important. The fixed percentage differential of almost 13% between the weights of English and Irish copper coins therefore was at variance with the exchange differential, as well as unrelated to the value of copper.

Nelson submitted Lord Hillsborough's letter to Robert Carter Nicholas as Treasurer of Virginia and to Peyton Randolph as Speaker of the House of Burgesses and responded on May 27, 1771:²⁴

* * * and upon reading and considering the Warrants, which shew the manner in which the Kingdom of Ireland hath been supplied with Copper Money, the Treasurer agreed that he would appoint an Agent in London, Mr. John Norton, Virginia¹ Merchant to perform the several requisites for obtaining the quantity that is wanted for this Colony; * * *

John Norton, a Virginian, had moved to London in 1764 and his firm was instrumental in obtaining supplies for the

²⁴ English Public Records Office, London, C. O. 5-1349, p. 197-9.

Colony, in selling Virginia tobacco and in financing its trade. His firm owned and operated ships which ran principally between England and Virginia.²⁵ His son, John Hatley Norton, was married to Sarah Nicholas, daughter of the Virginia Treasurer.²⁶ Although the Virginia Colony had not officially appointed an agent in London as had been customary theretofore, John Norton was relied upon unofficially as such.

Robert Carter Nicholas instructed John Norton to obtain copper coinage weighing 52 to the pound following his and other Virginia officers' belief that 52 halfpence to the pound was the suggestion inferred by Lord Hillsborough's letter of February 11, 1771, and its enclosures. Whether the cause of this error was the ambiguity resulting from the lack of specific instructions in the letter or their own lack of knowledge of English coinage theory or both is of little importance, except that confusion and delay resulted.

Nicholas subsequently explained to Norton that "The mistake in my former letter arose entirely from a Misapprehension of Lord Hillsborough's Letters & the Papers accompanying it. The President & Council, as well as our Speaker & myself understood that the 52 half Pence to the Pound mention'd in the King's Warrant to the Mint, were of sterling Value & not Irish currency, as we now find was intended."²⁷ The entire difficulty is thoroughly explained in a letter dated December 2, 1771,²⁸ from Lord Hillsborough at Whitehall to Lord Dunmore, the new governor of Virginia:

²⁵ See: *Guide to the Manuscript Collections of Colonial Williamsburg*, compiled by Lynette Adcock, (Williamsburg, Virginia, 1954), p. 23.

²⁶ *Virginia Gazette* of January 26, 1772. John Hatley Norton subsequently signed the 5, 7/6, 10, 12/6 and 20 shilling notes of the Virginia paper money issued pursuant to Act of Convention passed July 17, 1775, and the 2/6 bills under the Act of July 1, 1776.

²⁷ Letter dated April 6, 1772; *John Norton & Sons, Merchants of London and Virginia*, p. 230.

²⁸ English Public Records Office, London, C. O. 5-1349, p. 351-4.

Mr. Norton a Virginia Merchant came to me this morning to lay before me some Directions which he has rec.d from the Treasurer of the Colony of Virginia concerning a Copper-Coinage to circulate in that Dominion. I take the Liberty to refer Your Lordship to certain Letters which have passed between the late Lord Bottetourt and me, and Mr. President Nelson & me, on that subject: These will inform Your Lordship of the State of this—matter, and you will find that the Directions now sent to Mr. Norton are in consequence of an Information rec.d by Mr. President Nelson from me of the manner in which the Kingdom of Ireland is supplied with Copper-Coin. But the Treasurer explains the Ideas of the gentlemen who seem to approve of & to adopt that Mode in such a manner as makes it necessary for me to trouble Your Lordship with some farther Explanation concerning it and observations upon it.

Mr. Norton and I considered the Treasurer's Letter with all the Attention we could give to it, and we both thought that there is some ambiguity in his Expressions which gave us room to suppose that the Proposition might be taken in two ways: The first, that 52 Halfpence being coined out of Copper equal to the Value of two English Shillings, each Halfpenny should still pass at 25 p Cent. more than an English Halfpenny does in England, although only 48 English Halfpence are coined out of the same Quantity of Copper. But we could scarcely suppose this to be the Intention, as it would be a manifest Fraud. The other Proposition is not attended with any Fraud, and, as we apprehend, is this, that the Change of two English Shillings shall be 52 Halfpence instead of 48. This might certainly be done, but it appears to me that the gentlemen had hastily adopted the Idea of the Irish Copper Coinage without considering the just & useful Proportion which it bears to the nominal Value of the English Shilling and other English Silver Coins current in that Country; for, as the English Shilling there is denominated 13 Pence, 26 Halfpence divide it into equal Parts & make the Change most easy and convenient, and therefore they have chose to coin the Avoirdupoise Pound of Copper into 52 Halfpence equal to two English Shillings. Now this may be with great Facility adapted to the Case of Virginia, for the two English Shillings passing for 30 Pence Virginia Currency, the usefull Division in the Coinage of Copper would be to make 60 Halfpence out of the Avoirdupoise Pound of Copper equal to two English Shillings; and if

this Plan should be agreeable to His Majesty's Subjects in that Colony, there is no Objection to it that immediately occurs to my Mind, and I am of opinion that it would be of very essential Service especially to the poor. I shall however take no other step in this matter than to obtain all the Information that I can, with regard to a Measure of this sort, from those Departments of Government to whom it more particularly belongs; and in case no Objections arise from them and Your Lordship finds what I now mention is agreeable to the Gentlemen on your side of the water, I shall be ready to do my Part in carrying the Measure into Execution.

I take the Liberty further to observe to Your Lordship, that in the Plans hitherto proposed the Colony has intended to lay out £2500 in Copper Coinage, and I submit to Your Lordship's Consideration whether this be not too large a Sum for the first Experiment, and whether it might not be more prudent to make the Trial upon £1000, which you will observe from the Account I sent over of the Irish Coinage will amount to five Tons of Copper. It will be necessary if the Colony adopt this Measure to employ Mr. Norton or some other Agent to execute their Commands in this matter, and the Person they employ shall have all the Assistance I can give him. I ought in Justice to Mr. Norton to inform Your Lordship, that I thought I observed great Disinterestedness in his Conversation upon this subject.

I have troubled Your Lordship with a very long Letter, but the Matter I conceive is of real Importance to the Colony, and it will give me the greatest Satisfaction, if I can be the Promotor of any Measure that may conduce so essentially to its Interest and Advantage as I really think this will do.

"I am &
Hillsborough

P.S. There may be such a Proportion of Farthings coined as the Colony shall think proper."

There is an interesting error in Hillsborough's letter when he states in two places that 48 English halfpence weighed one pound when officially and actually 46 weighed one pound. Hillsborough was apparently so anxious to justify the theory that the exchange ratio of 2 shillings English

currency equaling 2 shillings 2 pence Irish currency as well as 2 shillings 6 pence Virginia currency should have an inverse ratio to the weight of the English, Irish and Virginia halfpence, namely, 48, 52 and 60 to the pound, that he inadvertently changed the facts to support the soundness of his presentation. An admission that 46 English halfpence then being coined weighed one pound would have entitled both Ireland and Virginia to heavier copper coinage than 52 and 60 to the pound respectively. His protest that what Virginia requested "would be a Manifest Fraud" could have been used as an embarrassing boomerang. Virginia was, however, so anxious to obtain copper coinage that even if Hillsborough's misstatement was noticed it went unchallenged in the tragedy of errors.

In addition to recommending a reduction in weight of the halfpence for Virginia to 60 to the pound avoirdupois to conform to the Newton theory, Lord Hillsborough asked that the quantity of coins be reduced from the value of £2500 sterling to £1000 sterling because he realized that they might not be acceptable for circulation because of their lack of intrinsic value.

PREPARATION AND DELIVERY

The House of Burgesses of Virginia immediately on being presented with Lord Hillsborough's letter of December 2, 1771, resolved its entire body into a Committee to reconsider the copper coinage matter on March 31, 1772.²⁹ George Wythe profusely thanked the Governor and the King's ministers for their cooperation pursuant to a resolution to that effect.³⁰ On April 8, 1772, an amendatory act³¹ covering copper coin was passed according to which the treasurer was authorized to import as many as may be bought for £1000 sterling value of a special issue of coined copper in a denomination equivalent to a half penny in Virginia currency subject to the consent and regulations of the Crown. Applicable portions of this act are set forth in Appendix B hereof. The weight of the coin, however, was not provided for, probably in consequence of the previous confusion. No farthings were authorized as Lord Hillsborough left that choice to Virginia.

After studying the matter further Virginia Treasurer Nicholas wrote to Norton on June 16, 1772, "we all think that Currency halfpence would be best at sixty to the pound Averdupoise and that it would be advisable to make the first Experiment with no more than £1000 stg value exclusive of Costs."³² The word "costs," as used in the letter, meant shipping charges.

Suggestions for the motto on the coins were sent from Virginia to England and drawings of the coins were sub-

²⁹ *Journals of the House of Burgesses of Virginia*, edited by John Pendleton Kennedy, 1770-1772, p. 281.

³⁰ English Public Records Office, London, C. O. 5-1350, p. 85.

³¹ W. W. Hening, *Statutes at Large of Virginia*, Vol. VIII, p. 534-6, 12th George III, Chap. XVII, 1772.

³² *John Norton & Sons, Merchants of London and Virginia*, p. 244-5.

mitted to the colony for comment. A prophetic change in the motto was required by the English. In the above-mentioned June 16, 1772, letter Nicholas stated:

"I have only an Opportunity at present of consulting with the Speaker (Peyton Randolph). We are both willing to give up the Word Peace, as it seems to be exceptionable & I dare say the rest of the Gentlemen will concur in Opinion, so that it may be struck out. We highly approve either of the Designs for the back Front, but of ye two should prefer that which has the vine or branch running up the inner Edge as we think it fills up better & makes the figure more compleat."

In the summer of 1772 John Norton purchased copper for the proposed coinage to the amount of £400 sterling, but since prompt approval of the coinage was not forthcoming Treasurer Nicholas instructed Norton "to charge my private & give the Treasury Acct. credit for £400 Stg in part of the Copper Money."³³

A new period of delay began when John Norton on August 6, 1772, wrote to John Hatley Norton about a contemplated political change and reported "t'is said if it is carried into execution, Lord Hillsborough goes out. I suppose this prevents my being able to get the Affair of Copper Currency fix'd, tho I have been promised by his Lordship it shou'd be done and have frequently attended him for that purpose." The postscript on this letter adds, "L. Hillsborough has resigned and Lord Dartmouth (William Legge) appointed in his stead so that I have a fresh application to make about the copper coin."³⁴

The new application was filed with Lord Dartmouth, and referred by him to the Board of Treasury and by them to the Master of the Royal Mint on December 3, 1772.³⁵ The mint

³³ Letter of September 19, 1772; *John Norton & Sons, Merchants of London and Virginia*, p. 272.

³⁴ *John Norton & Sons, Merchants of London and Virginia*, p. 265.

³⁵ English Royal Mint Record Books, London, No. 12, p. 201.

recommended the coinage on March 22, 1773, one year having elapsed since Virginia had conformed its legislation to the Crown's wishes.

Virginia Treasurer Nicholas, on April 24, 1773, wrote to Norton, "Many People are very impatient for the Copper Money which I'm in hopes will soon be procured by your friendly Assistance; You'll be pleased to remember that it is to be sent *immediately* to *me* as Treasurer & not to any *other* person."³⁶

The Crown finally authorized the coinage of not more than twenty-five tons of Virginia halfpence by Royal Warrant³⁷ issued on May 20, 1773, for the benefit of John Norton, and provided that 60 halfpence weigh one pound avoirdupois and be made at the Tower Mint by the Royal Mintmaster who was to be paid 5 pence sterling per pound for striking and 20 shillings sterling per ton for bookkeeping. The dies were to be prepared at the mint, the obverse having the bust of George III surrounded with the inscription GEORGIUS·III·REX. and the reverse having a modified Virginia coat of arms to which the word VIRGINIA and the date were to be added. Copper sheets of fine quality and proper thickness were to be furnished by Norton for the coinage and the mint was to lend him a planchet cutter to test the thickness of the sheets as a $3\frac{1}{2}\%$ error³⁸ in coin weight was the limit of permitted variation. The full text of the May 20, 1773, warrant is included in Appendix C hereof because of its full detail of eighteenth century coining procedures.

The arrangement for the copper to be furnished by John Norton was to enable his firm to purchase the metal and have it drawn to proper thickness for as reasonable a price as possible so that the circulating value of the coin less the

³⁶ *John Norton & Sons, Merchants of London and Virginia*, p. 314.

³⁷ English Public Records Office, London, Tome 52-62, p. 379-81.

³⁸ Only $2\frac{1}{2}\%$ deviation was permitted in the coinage of English copper coin. See: Sir John Craig, *The Mint*, p. 250.

aggregate of cost of material, minting, bookkeeping, transportation and insurance might give rise to a small profit which would accrue to the colonial government.

The cost of drawn copper bars for coinage of English copper at the Tower Mint during this period was 15½ pence sterling per pound avoirdupois³⁹ and could not have varied materially as to the Virginia coinage. Adding the charges for coining, assaying and packing of 5 pence per pound weight and for bookkeeping of 20 shillings per ton, as provided in the Royal Warrant, the total cost aggregated 20.86 pence sterling for each pound avoirdupois of Virginia coppers or .344 pence sterling per halfpenny. Converting the cost to current money of Virginia by adding a 25% differential, the cost of a Virginia halfpenny was .43 pence current money of Virginia or a profit of 16% to the colony before deducting the cost of transport and insurance to America and compensation for John Norton for his years of service. In spite of the fact that the value of the content in metal was half of the proposed circulating value the people of Virginia were to receive the copper coinage close to its actual cost.

In securing the authorization for copper halfpence, John Norton humorously alluded in his letter of May 29, 1773, to his methods of currying favor by commenting, "I have danced Attendance pretty often about it to the Treasury Office."⁴⁰

The Royal Warrant authorized 25 tons of coin which was five times the amount the Virginia legislation had approved. The warrant only covered the manufacture of the coin, but did not specifically provide for its circulation. Since the warrant described the coins as "halfpennys," it is difficult to believe that a royal approval of the coining of such money pursuant to colonial legislation was insufficient authorization for it to be circulated, but such was the technical

³⁹ Sir John Craig, *The Mint*, p. 428.

⁴⁰ *John Norton & Sons, Merchants of London and Virginia*, p. 326.

position of Treasurer Nicholas. On June 21, 1773, he reported to John Norton, "I am glad to hear you have got the Copper into so good a Way at last. You'll remember it is to be sent immediately to me & I think it will be necessary to procure a Warrant or Instruction to our Governor to declare it current in this Colony, as you know it is a matter of Prerogative."⁴¹ Apparently Nicholas was concerned about the attitude of the people toward copper coin and the general financial condition of the Colony and wished to use the halfpence in the most effective way to make it acceptable as current money of Virginia. He seemed to fear it might fall into the hands of other officials.

Progress at the mint was slow and on July 31, 1773, John Norton reported:

I have a large Quantity of Copper d'd at the Mint, which is cutting ready for Coinage, but the Engraver is so dilatory that he has not furnished all the Tools. I still hope to get the Money coined in about a Month or six weeks. I gave Cap. Barron one of the ps which is the size of a Guinea, & thickness of a half Penny.⁴²

Apparently the production dies had not been completed and the specimen given to the captain of one of the ships belonging to John Norton & Sons was from the original pair of dies used for trial pieces. It is designated in the die classification hereafter set forth as 1-A, and illustrated on PLATE I.

Virginia halfpence were soon to find themselves used as ship ballast. When the coins were almost ready for shipment to America John Norton reported on September 25, 1773, "I hope to send the copper money or a great part thereof pr. the Virga. which will save some ballast."⁴³ The VIRGINIA which was one of the ships owned by John Norton & Sons finally brought the coins to America on February 14, 1774.

⁴¹ Ibid., p. 332.

⁴² Ibid., p. 344.

⁴³ Ibid., p. 352.

When the news was announced in the February 24, 1774, *Virginia Gazette* that the VIRGINIA, captained by Howard Esten, had arrived in York River from London with 5 tons of halfpence on board the long hope for small change appeared to be fulfilled. Five long tons consisted of about 672,000 halfpence which could adequately supply the small change needs of the colony. Nicholas, however, in his sincere belief that additional royal instructions were legally necessary to authorize the circulation of the halfpence put them in storage and patiently awaited further official English action.

A further delay of nine months resulted. By royal proclamation dated November 16, 1774,⁴⁴ it was recited that five tons of such halfpence were coined and were "ready to be exported" and that "we do accordingly hereby ordain, declare and command that the said pieces of copper money, so coined, stamped, and impressed, as aforesaid, shall be current and lawful Money of and in our said colony of Virginia and of and within the districts and precincts of the same; and shall pass and be received therein after the rate following, that is to say, twenty-four of the said pieces shall pass and be received for the sum of one shilling, according to the currency of our said province of Virginia * * *." The maximum to be received in one payment was limited to the same amounts stated in the previous acts of the Virginia assembly, namely up to 60 halfpence in a payment of 20 shillings or more and up to 24 halfpence for smaller payments. The full text of the proclamation is set forth in Appendix D.

The proclamation was so long delayed in issuance that the halfpence alleged to be "*ready to be exported*" had already been delivered in Virginia over nine months beforehand. The November 16, 1774, proclamation did not arrive in Williamsburg until about three months later and the text

⁴⁴ Peter Force, *American Archives*, Washington, D.C., 1837, 4th Series, Vol. I, p. 982; *The Numismatist*, Vol. LI (1938), p. 695.

of the proclamation was published in most issues of the *Virginia Gazette* from February 23, 1775, through March 16, 1775. Treasurer Robert C. Nicholas published a notice dated February 27, 1775, in all issues of the *Virginia Gazette* between March 2 and March 16, 1775, announcing:

Observing from the Royal Proclamation, published in the last Gazette, that his Majesty hath been graciously pleased to authorize the Currency of Copper Money throughout this Colony, agreeable to the terms of an Act of our General Assembly, I do hereby give Notice that such copper money is now ready to be issued in Exchange either for Gold, Silver or any Treasury Notes. Those who have Demands, PROPERLY AUTHENTICATED, may receive what Proportions they please in Copper, but are not obliged to take more than $\frac{2}{6}$ in any sum above 20 shillings and not more than 1s in any sum under 20s. Constant Attendance will be given at this office, every Day in the Week, except Sunday from eight to one o'clock.

The notice continued with a request to those who owed the Treasury money to pay promptly or their names would be published.

John Norton had completed his prolonged and difficult assignment. When Lord Hillsborough had observed that Norton showed "great Disinterestedness in his Conversation upon this subject"²⁸ it was intended as a compliment with respect to Norton's honesty, but might well have also been a reflection of his disgust in the negotiations. Norton's policy of avoiding association with English public officials was re-affirmed by his experience with respect to the coinage and when he was accused of paying a British tax on tea exported to Virginia, the *Virginia Gazette* of May 12, 1775, (P) carried his open letter of apology which concluded:

I also farther declare, that so far from having any connexion with the Ministry, my person is even unknown to any of them, and that I never was in their presence except when I attended about the copper coinage for Virginia in which I was employed, instead of a better agent.

PAPER MONEY PROBLEMS (1771-5)

The Treasurer of Virginia during the period the Colony was seeking copper coinage had a series of unpredictable difficulties with the paper currency which affected the exchange value of current money of Virginia. The unprecedented floods of 1771 in Virginia destroyed much of the privately owned tobacco stored in government warehouses, and the colony was obliged to issue 30,000 pounds in new paper currency, in July, 1771, to pay these losses. Slackening of business in England began to be felt in Virginia by July, 1772, but the Virginia exchange held to 25% above sterling.⁴⁵

In January, 1773, the Virginia Treasurer announced the discovery of extremely deceptive counterfeit 5 pound notes of both the 1769 and the 1771 paper currency issues and all circulation of paper money came to a stop.⁴⁶ To remedy this situation the House of Burgesses in the March 4, 1773, session, authorized a redemption in specie or replacement by new notes of all denominations of the 1769 and 1771 currency emissions.⁴⁷ Proper paper for the replacement issue was not available and, in the emergency, the Treasurer located in Virginia a supply of circulating notes engraved in London and originally prepared for use by Colonel Thomas Tabb, and other Virginia merchants, who had endeavored to

⁴⁵ In an open letter dated July 20, 1773, to the editors of the *Virginia Gazette* Nicholas gives a resume of finances, paper currency and exchange fluctuation during his term of office. See: *Virginia Gazette* of July 29, 1773 (R & PD).

⁴⁶ *Virginia Gazette* of January 28, 1773 (PD).

⁴⁷ W. W. Hening, *Statutes at Large of Virginia*, Vol. VIII, p. 647, 13th George III, Chap. I. See: *Virginia Gazette* of March 11, 1773 (R).

organize the James River Bank a few years before.⁴⁸ The Virginia Treasurer, feeling that these notes could not be counterfeited, eliminated the inapplicable text in these note forms by the use of parentheses,⁴⁹ added appropriate language in longhand indicating they were issued by Virginia instead of by the James River Bank, printed the denomination, a border and "Death to Counterfeit" on the blank reverse, dated them April 1, 1773, and exchanged this currency for the older issues which were returned to the Treasury. These James River Bank Virginia Treasury notes are one of the most unusual issues of money in American Colonial history and the front and back of a specimen are illustrated on PLATE VI. Nicholas forthwith ordered a supply of large elaborately engraved notes which were prepared by Ashby in London and when they arrived in Virginia in September, 1773,⁵⁰ were signed and put into circulation under the March 4, 1773, act. The merchants, in the meantime, in order to restore confidence in Virginia paper currency, set themselves up as experts to pass on the genuineness of the 1769 and 1771 notes used in the course of trade.⁵¹ The exchange dropped to 30% above sterling, but soon returned to 25%.⁴⁵ A year later the Treasurer's Office announced the discovery of a 20 shilling counterfeit Virginia note of the 1769 issue.⁵² Most notes of this issue had been exchanged by this time so that this announcement did not materially affect public confidence in Virginia's paper money.

The independent legislative Convention of Virginia on

⁴⁸ Letter dated March 17, 1773 from Nicholas to Norton. See: *John Norton & Sons, Merchants of London and Virginia*, p. 305.

⁴⁹ This procedure is explained in a postscript to a letter written by Nicholas to Norton dated July 30, 1773. See: *John Norton & Sons, Merchants of London and Virginia*, p. 342.

⁵⁰ *John Norton & Sons, Merchants of London and Virginia*, pp. 305, 326 and 349.

⁵¹ *Virginia Gazette* of February 4, 1773 (PD & R).

⁵² *Virginia Gazette* of April 14, 1774 (PD).

July 17, 1775, authorized an issue of paper currency to finance Virginia's war expenses. Treasurer Nicolas, who still had on hand some of both the James River Bank note forms and the large notes engraved by Ashby, interlineated the former, omitting the use of parentheses and the printing on the back, and interlineated the latter, using parentheses for word elimination. He also had other notes printed from cuts and type so that the July 17, 1775, emission has three different styles of circulating notes.

Current money of Virginia continued to remain on a basis of 25% over par with respect to sterling and the exchange was pegged at that rate (6 Virginia shillings equalling one Spanish milled dollar, i.e., a piece of 8 reales) during the early years of the Revolution.⁵³

⁵³ *Journals of the Continental Congress*, November 3, 1775, Vol. III, p. 319.

CONDITIONS PREVENTING NORMAL CIRCULATION

In 1775, a few genuine and quantities of counterfeit English copper halfpence were circulating in New England at $\frac{3}{4}$ pence New England currency and in the central colonies at $\frac{1}{2}$ pence or more in their currencies.⁵⁴ Paper currency of the New England states had exactly the same exchange value as Virginia paper currency. Counterfeit English halfpence in circulation in America usually did not contain more copper than Virginia halfpence and often had less. The metal or intrinsic value of all the above-mentioned coppers was in any event less than half of their circulating value. Virginia merchants naturally were aware of all of these conditions. It is therefore logical to assume that those merchants who received Virginia halfpence for the value of one-half pence in current money of Virginia would not wish to spend them for that amount when coin of equivalent size and weight in neighboring colonies could be spent for a far greater value.

Virginia halfpence were first distributed in Virginia during the spring of 1775 when the disputes between Great Britain and the colonies had become aggravated and people felt the imminence of war. In the fall of 1774 the Continental Congress had met in Philadelphia and another meeting was scheduled for May 10, 1775. Governor Dunmore published a proclamation dated March 28, 1775, in the Virginia Gazette warning Virginia delegates against attending that meeting.

⁵⁴ Thomas Jefferson, "Notes on the establishment of a Money Unit and of a Coinage for the United States," *The Papers of Thomas Jefferson*, edited by Julian P. Boyd, (Princeton, N. J., 1953), Vol. 7, p. 178. It is to be noted that a distinction between the value of a copper and a penny caused a revision of this document.

Virginia planned its own convention of delegates for March 20, 1775 at Richmond to ratify the actions of the Continental Congress and representatives from all counties were being selected. This convention on March 25, 1775, called for a suspension of the administration of justice in civil suits and recommended "to all creditors to be as indulgent to their debtors, as may be; and to all debtors to pay as far as they are able; * * *"⁵⁵ The removal of the powder from the public magazine at Williamsburg to an armed British schooner on April 21, 1775, by order of Governor Dunmore enraged the citizenry and a committee of 102 men organized to demand its return. Governor Dunmore promised only compensation in money for its value and on May 4, 1775, after payment was accepted, Patrick Henry in charge of the assembled committee sent a dispatch to Treasurer Nicholas which stated:

The people here have it in charge from Hanover Committee to tender their service to you, as a public officer, for the purpose of escorting the public treasury to any place in this colony, where the money would be judged more safe than in the City of Williamsburg.⁵⁶

Nicholas assured the group that he had no apprehensions for the treasury and they disbanded.

War began within 50 days after the first announcement of the availability of Virginia halfpence. This turmoil naturally created a desire in some of the people to secure and retain metallic money of all types. The fear of inflation and paper money depreciation could not be eliminated by law or patriotism. Although copper lacked the practicability of gold and silver in easily transported value and acceptability, yet it had commercial and war uses. The desire to retain rather

⁵⁵ *Virginia Gazette* of April 1, 1775 (DH).

⁵⁶ *Virginia Gazette* of May 11, 1775 (Pi); *The Remembrancer or Impartial Depository of Public Events for the Year MDCCCLXXV*, J. Almon, (London, 1775), p. 103.

than circulate copper coin must have been furthered by the publication in the *Virginia Gazette* of August 10, 1775 (Pi) of a May, 1775, news bulletin from London which provided:

Orders are sent to all the out ports to prevent the exportation of copper coin to any port of the American colonies, except on government account.

As the Revolutionary War continued the scarcity of copper tended to prevent the free circulation of Virginia halfpence more than their value. An advertisement in the *Virginia Gazette* for August 17, 1776 (DH) indicated "Ready Money given for OLD BRASS, at 18d per lb. and COPPER at 15d * * *." Although the weight of one pound of Virginia halfpence would constitute 30d. in circulating value the advertisement showed the need for copper in Virginia and the inability to obtain it through normal trade.

JEFFERSON'S ACTION AND STATEMENTS

Some members of the House of Delegates of the Commonwealth of Virginia realized that the purchasing power of the Virginia halfpence had to be increased to make them circulate and at its first independent session held in Richmond the record shows that Thomas Jefferson on November 7, 1776, submitted a "Bill for Altering the Rates of Copper Coin of this Commonwealth" providing that the Virginia halfpence should pass for one penny each of current money of Virginia. He seems to have deemed it necessary to do so "For rendering the halfpenny *peices* of Copper coin of this Commonwealth of more convenient value and by that means introducing them into more general circulation." This proposal indicates that the only effective means to induce those who held Virginia coppers to spend them was to increase substantially the legal value of each coin. The act was rejected by vote on November 21, 1776.⁵⁷ It is to be noted that "introducing them into more general circulation" admitted there was some limited circulation.

In the spring of 1784 when Thomas Jefferson was participating in the plans for a copper coinage for the United States he made certain written suggestions which included a statement which has heretofore mystified numismatists and made Jefferson appear to have been unfamiliar with the authorized copper halfpence of his own commonwealth or their actual use. Jefferson states, "In Virginia coppers have

⁵⁷ *Journal of the House of Delegates of the Commonwealth of Virginia*, October 1776 session, (Richmond, 1828), p. 45, 46 and 65; See also: *Papers of Thomas Jefferson*, edited by Julian P. Boyd, (1950), Vol. 1, p. 597.

never been in use. It will be as easy, therefore, to introduce them there of one value as of another."⁵⁸

When it was Jefferson himself who introduced legislation in Virginia in 1776 to stimulate "more general circulation" of copper halfpence it is obvious that he knew that the coins were in the hands of the public, that they had been distributed by the treasury and were circulating to some extent. His statement, therefore, has been deceptive from a numismatic point of view. It served to support his argument in favor of the decimal system by asserting an unequivocal negative which from an economic point of view was generally not too misleading. If Jefferson had added the word "generally" or "virtually" or similar equivocal language the confusion as to the Virginia halfpence would have been avoided.

Jefferson subsequently clarified some facts and distorted others when he stated in his "Supplementary Explanations" to his "Notes on Coinage:"⁵⁹

Let us examine facts in countries where we are acquainted with them. In Virginia, where our towns are few, small, and of course their demand for necessities very limited, we have never yet been able to introduce a copper coin at all. The smallest coin which any body will receive there is the half-bit, or 1/20 of a dollar. In those states where the towns are larger and more populous, a more habitual barter for small wants has called for a copper coin 1/90 or 1/96 or 1/108 of a dollar. In England where the towns are many and populous, and where ages of experience have matured the conveniences of intercourse they have found that some wants may be supplied for a farthing, or 1/208 of a dollar, and they have accommodated a coin to this want. This business is evidently progressive. In Virginia we are far behind.

Although admitting that an attempt was made to introduce copper into circulation and explaining reasons why the

⁵⁸ Thomas Jefferson, "Notes on the establishment of a Money Unit and of a Coinage for the United States" *Papers of Thomas Jefferson*, Vol. 7, p. 178.

⁵⁹ *Ibid.*, Vol. 7, p. 185.

use of coppers was not needed in rural Virginia, Jefferson makes it appear that coppers did not circulate because people refused to receive them. The proposed legislation he introduced in 1776 proved quite the contrary, as his effort then was to induce people to spend Virginia coppers rather than to receive them. The sounder concept is that after people had time to adjust their thinking to the fears, shortages and inflation brought about by war the desirability of coppers reversed itself and halfpence became unacceptable because people were not accustomed enough to their use. Jefferson's statements as to Virginia copper coins may not have needed clarification in 1784, but their ambiguity was the principal factor in stimulating the research for this monograph because they confused the author.

EVIDENCE OF CIRCULATION AND OF HOARDING

In the course of the restoration of Colonial Williamsburg the copper coins which have been found from the period prior to the commencement of copper coinage at the United States Mint in 1793 consist of:

- 40 Virginia halfpence dated 1773.
 - 1 William III English halfpenny (1695–1701 period).
 - 2 Rosa Americana (Wood's patent) one penny dated 1722.
 - 2 George I English halfpence dated 1722.
 - 5 George II English halfpence, one dated 1738, one dated 1740, the dates of the others being undecipherable.
 - 2 George II Irish halfpence (1737–60 period).
 - 4 George III English halfpence, one dated 1774, one dated 1775, the dates of the others being undecipherable. They are all counterfeits of the period.
 - 1 Charles II Scottish Bawbee or sixpence with the date undecipherable (1677–9 period).
 - 1 Christian VII Danish 2 skilling dated 1785.
 - 1 Maria Theresa Hungarian 1 poltura dated 1763.

These coppers along with 7 eighteenth century Spanish Colonial silver coins struck in Mexico City were not found in any groups but were scattered over the entire excavated area of the city. Most of them were substantially corroded, but clearly show evidence of wear from natural use as money and therefore confirm the actual circulation of Virginia halfpence in Virginia. It is also evident from this archeological evidence that the Virginia halfpenny was the predominantly

used copper coin in Williamsburg, as there are over twice as many Virginia halfpence as there are other copper coins in the preceding list.

Virginia halfpence in private and public numismatic collections are commonly found showing substantial wear from circulation, thereby confirming the archeological evidence.

Virginia halfpence are readily obtainable today in bright red uncirculated condition chiefly because of the discovery over a century ago by the family of Colonel Mendes I. Cohen of Baltimore of a hoard of halfpence in Richmond still in the original keg. Colonel Cohen was an antiquarian and a collector and on the sale of some of his coins in 1875 the existence and source of the hoard was kept somewhat secret. To prevent a collapse in the market price of Virginia halfpence (as collectors' items) the heirs of Colonel Cohen slowly sold halfpence to coin dealers until 1929 when 2200 pieces were sold at auction in one lot.⁶⁰

Dr. Montroville W. Dickeson, whose *American Numismatic Manual* was published in 1859, indicates that a quantity of Virginia halfpence were "dug up from the summit of the hill, on which the college now stands at Knoxville, Tennessee; and quite a number were exhumed from a locality near Easton, Pennsylvania."⁶¹ Disregarding the unreliability of much of Dickeson's information, little can be deduced from such data.

⁶⁰ Walter H. Breen, "Survey of American Coin Hoards," in *The Numismatist*, Vol. 65, (1952), p. 16.

⁶¹ Page 84.

THE MELTING POT

During the Revolutionary War copper in Europe was available at normal prices and the only risk was shipping it to America. As the war continued shipment of metal and other commodities to America became more reliable and thus as early as 1777 the Continental Congress was considering a mint for coining specie and copper.⁶² On November 19, 1779, Edward Bridgen of the London firm of medallists, Bridgen and Waller, wrote to Benjamin Franklin at Passy, France, in an effort to secure a copper coinage contract for the United States and referred to Virginia halfpence as follows:

I can deliver them free on Board for Six pounds sterling p. Hundred Weight (id est 112 lbs. p. cwt) Package included and I can get 8 Ton done p. month. I herewith send you 2 others a little polished to show the Metal in a Better dress the one is an ounce the other an half ounce weight and if the one was to pass for a halfpenny or the 108th part of a Dollar and the other for a penny or 54th part of a Dollar they would be less liable to be counterfeited and be $33\frac{1}{3}$ p. ct more valuable than the English copper coin and 58 p. ct more than those coined for Virginia many years ago.⁶³

Actually Bridgen's ability to figure percentages was not demonstrated in his letter as the coppers he proposed were $43\frac{2}{3}\%$ more valuable than British halfpence (46 to the pound) and $87\frac{1}{2}\%$ more valuable than Virginia halfpence (60 to the pound), the latter percentage figure after adjusting for the depreciation of current money of Virginia becoming 50%.

⁶² *Journals of the Continental Congress*, February 20, 1777, Vol. VII, p. 136-8.

⁶³ Manuscript in the library of the American Philosophical Society, Philadelphia, Vol. 16, Frame 118.

Bridgen's figures do show at least that copper was plentiful in Europe and copper coin was obtainable there far cheaper than the circulating value of Virginia halfpence.

After the Revolutionary War and before the Constitution was adopted coppers were minted by Vermont, Connecticut, New Jersey, Massachusetts and by the Federal Government. In addition large quantities of counterfeit English halfpence and various copper tokens were introduced into American circulation, but not in Virginia. In 1789, there was a copper panic and the value of all copper coin circulating in the United States collapsed to its intrinsic value as metal.⁶⁴ Tons of coppers therefore found their way to the melting pot and many Virginia halfpence no doubt suffered the same fate.

Virginia halfpence had the unique distinction of being considered at first too valuable to circulate freely and subsequently of being of too little value and popularity to circulate freely.

⁶⁴ *The Freeman's Journal* (Philadelphia) of August 5, 1789; *Connecticut Journal* of July 28, 1789.

1774 COINAGE IN SILVER

There are four known specimens of a 1774 Virginia coinage in silver⁶⁵ and all of them are brilliant proofs. The bust on the obverse is much larger than that on the 1773 halfpence, but the size of the die is not. The legend reads GEORGIVS·III·DEI·GRATIA· instead of GEORGIVS·III·REX· as specified in the 1773 royal warrant and the 1774 proclamation. The text of the obverse legend of the pattern would require on the reverse a title at least with the word REX. The obverse die is identical to one used on the fourth style of the bust of George III found on the obverses of the English gold guineas dated from 1774 through 1786.

The reverse however is exactly the same style and size as the reverse of the 1773 copper halfpence. It is different from all dies for copper halfpence as well as having the distinctive date of 1774. There are eight strings in the harp on the arms of Virginia. No English shillings were minted between 1763 and 1787. The legal weight for the coinage of English shillings if they had been struck would have been 93.74 grains of silver 0.925 fine and it is interesting to note that the 84 to 86½ grain weight of the 1774 Virginia silver pattern is about 10% below the English standard. A further reduction in weight would have had to be made if consideration were to be given to a Virginia shilling which would stay in circulation in Virginia and not be exported from Virginia for its silver value. The introduction of its own silver coinage would

⁶⁵ Specimens are in the collections of F. C. C. Boyd, Johns Hopkins University, Mrs. R. Henry Norweb and the writer. It is very doubtful whether a 1774 bronze proof exists as it is unknown except for reported hearsay in James Atkins, *The Coins and Tokens of the Possessions and Colonies of the British Empire*, 1889, p. 265.

have had a strong stabilizing effect on the differential between sterling exchange and current money of Virginia, but there is no evidence of a desire for the coinage of Virginia shillings and no documentary support for any such coinage. Since Virginia copper was being coined during the early part of 1774 with dies dated 1773, the 1774 die may have been prepared for copper coinage, but the quantity of coppers authorized was coined before the 1774 die was needed. In view of the fact that this coin has always been called a "Virginia Shilling" readers will have to determine whether to rename it a 1774 pattern Virginia halfpence in silver. It is illustrated on PLATE I.

CLASSIFICATION OF DIE VARIETIES OF HALFPENCE

There are both major and minor die varieties of the 1773 Virginia halfpence. The major difference in the obverses is the existence or lack of a period after GEORGIVS. The major difference in the reverses is the number of strings in the harp on the coat of arms, there being either 6, 7, 8 or 9. The bust of George III on all obverse dies was developed from reproductions of one master puncheon as was the Virginia coat of arms on all reverse dies. The process of making a hand-cut master puncheon with which to sink a matrix was used at that time to make as many production punches from the matrix as were needed. In making dies the production punches were used and the master puncheon was not in danger of breaking. Generally, the same number punches and letter punches were used for cutting the legends into all production dies, and the varying positions of the letters and figures in these legends gives rise to minor die varieties.

A 1773 reverse die and both the puncheon and matrix for the bust on the obverse still remain in the Royal Mint Museum in London.⁶⁶ The 1773 reverse die has nine strings in the harp and is described in the accompanying table as reverse RM. (Royal Mint). As yet no halfpence have been found for which it was used. The illustration on PLATE VI is from a struck impression made from the die. On a recent examination of the die by the author it showed no wear from production coinage and the authorized issue may have been completed without this die being put into service. The puncheon has a raised head of George III in high relief and

⁶⁶ William J. Hocking, *Catalogue of the Coins, Tokens, Medals, Dies and Seals in the Museum of the Royal Mint*, Vol. II, p. 119.

the matrix produced from it does not fit perfectly, indicating that the matrix was used for production punches and had customary corrective recutting.

The dies for the coinage of Virginia halfpence, being products of the London Mint, were sharply and carefully cut, probably by either Richard Yeo, chief engraver, or Thomas Pingo, second engraver. There is, however, one pair of dies which is unusually perfect and is designated as 1-A and illustrated on PLATES I, II and IV. These dies are used on planchets weighing 135 grains or about 52 to the pound, whereas the weight of all other die varieties ranges between 105 and 128 grains with the great bulk weighing between 115 grains and 120 grains, the legal weight being 116.7 grains or 60 weighing one pound. Coins struck from the die combination, 1-A, have a proof surface and are perfectly struck on planchets having a diameter of $1\frac{1}{8}$ inches whereas all others range between $\frac{5}{16}$ inches to $1\frac{1}{2}$ inches. These facts and the scarcity of the 1-A variety lead to the conclusion that these are trial pieces struck from the first pair of dies made before the production dies. This is confirmed by the fact that John Norton gave Captain Barron a Virginia halfpence having the size of a guinea before all the tools were completed. (See page 21.) Neither of the dies in the 1-A combination are found combined with any other dies or on any coins weighing 60 to the pound or less. It is therefore probable that the planchet cutter for Irish halfpence was used to make planchets for trial Virginia halfpence because the smaller planchet cutter was not ready and thus variety 1-A weighs 52 to the pound as do the Irish halfpence of the period. After the confusion caused by Nicholas requesting halfpence weighing 52 to the pound, it is ironic that a few trial specimens of that weight exist by mere coincidence. This halfpence has been improperly referred to in the past as a "Virginia penny" but more correctly should be described as a trial Virginia halfpenny on an Irish halfpenny planchet. Its principal

design features which distinguish it from all other varieties are the small 7's in the date. It is very scarce.

In classifying varieties of the coinage the dies have been grouped so that the minor varieties are subdivisions of major varieties.

As to the obverse dies with period after GEORGIVS it can be noted that the distance between the three periods varies on each die. I have measured in 64ths of an inch from the center of the period after GEORGIVS to the center of the period after III for the first length, from the center of the period after III to the center of the period after REX for the second length and from the center of the period after REX to the center of the period after GEORGIVS for the third length.

As to obverses with no period after GEORGIVS the distance in 64ths of an inch between the center of the two existing periods has been measured. Decimal portions of an inch are not used because a simple scale can be readily used for the measurements.

As to the reverses the dies are first grouped by the number of harp strings. There is one large leaf extending outward from the upper part of each side of the arms on the reverse. The leaf on the right ends opposite various portions of the first I and the leaf on the left ends opposite various portions of A. These differences are noted in describing the varieties.

The horizontal member of St. George's cross in the arms of Virginia is referred to as the horizontal divider and in cutting the lettering into the various dies the upright of the third I in VIRGINIA is sometimes parallel and sometimes not parallel to the line of the horizontal divider. This relationship is noted in describing the reverses.

There is a period after 1773 and a period after VIRGINIA. These periods were intended to be placed midway between the circular base line and the circular top line of the lettering and numbering. Some of these periods are centered; others are higher than the center line ranging up to the top line and

these positions are noted. The shape of these periods is not always circular and some appear like flat lumps or dashes, but because of recutting these variations are not used as a basis for die distinction.

As quantities of coins were struck, the wear on the dies produced some die breaks and also made it necessary to recut portions of the lettering. An attempt to point out these minute differences by creating die states or subvarieties does not seem of sufficient importance to be justified.

The following table describes 17 obverse dies and 20 reverse dies which are found combined to constitute 22 varieties:

OBVERSES

OBVERSES WITH NO PERIOD AFTER GEORGIVS

<i>Obv.</i> <i>No.</i>	<small>64ths of an inch between centers of periods</small>	<i>Special features</i>	<i>With Rev.</i>
1	29	Last period much lower than center of letters.	A
2	29½	O nearer E than R in GEORGIVS. Period much closer to I than R.	E
3	30	Base of first I in III slightly low. Third I of III as close to R of REX as E is. E closer to X than R.	F
4	30½	Top of second I of III nearer top of first I than third I. Period slightly nearer I than R. E in REX nearer R than X.	G O P
5	31	Third I of III too low.	B Z
6	31½	Second I of III farther from third I than from first I. Period nearer R than I. E in REX nearer X than R.	X
7	31½	First I in III tilts left. Period after X higher than center and extremely close to X and to curl.	D

OBVERSES WITH NO PERIOD AFTER GEORGIVS

<i>Obv. No.</i>	^{64ths} of an inch between centers of periods	<i>Special features</i>	<i>With Rev.</i>
8	3I	Second G in GEORGIVS slightly low. In III first I tilts sharply to left and second I tilts slightly to left.	H
9	3I	Baseline of third I of III higher than baseline of R. Period slightly closer to R than to I. E in REX slightly nearer R than X.	B

OBVERSES WITH PERIOD AFTER GEORGIVS

20	29	Space between tops of first and second I of III	X
	3I	wide. Period after III nearer I than R.	N
	50½		
21	30½	III perfectly spaced.	N
	3I		
	50½		
22	3I	E high in GEORGIVS. O nearer E than R in	S
	3I½	GEORGIVS.	
	5I		
23	32	Top of second I and third I in III distant.	Q
	28½	Period after III higher than center of lettering.	R
	49		
24	32	Baseline of III rises uniformly to right. Period	K
	30	nearer I than R.	
	5I		
25	33	Base of first G low. Top of first and second I in	M
	28	III distant.	
	50		
26	35	Second I in III tilts left. Center punch mark	Y
	28	shows near curls.	
	5I½		
27	36	First G distant from E. Base of first I in III	J
	28	slightly low.	
	5I½		

REVERSES

REVERSES WITH 6 STRING HARP

<i>Rev. Letter</i>	<i>Special Features</i>	<i>With Obv.</i>
A	Small 7's in date. Period after date as near V as 3. Third lion touches branch. Leaf ends opposite mid-point between I and R. Leaf ends opposite center of left base of A. Third I slopes down to right relative to horizontal divider. Periods centered.	1
B	G distant from R and I. Third lion touches branch. Leaf ends opposite space to right of first I. Leaf ends opposite left tip of right base of A. Third I parallel to horizontal divider. Period near top line of A. Period after 3 centered. In some specimens 4th, 5th and 6th strings from left side of harp are double cut.	5 9

REVERSES WITH 7 STRING HARP

D	V is low and touches leaf. N almost touches arms. Second 7 higher than 3. Third lion touches branch. Leaf ends slightly right of center of first I. Leaf ends opposite right tip of left base of A. Third I parallel to horizontal divider. Period after date near top line. Period after A higher than center.	7
E	V is low and close to leaf. Top of G curls up. Top of 7 higher than 3. Horse's lower hind legs not struck clearly. Third lion touches branch. Leaf ends opposite point between center and right side of upright of first I. Leaf ends opposite center of narrow A. Third I parallel to horizontal divider. Both periods higher than center line.	2
F	V touches leaf. N is low. Leaf ends opposite center of first I. Leaf ends close to and opposite center of A. Third I parallel to horizontal divider. Both periods higher than center line.	3

Die Varieties of Halfpence

45

<i>Rev. Letter</i>	<i>Special Features</i>	<i>With Obv.</i>
G	V is low. First I tilts right. G curls up at top. Leaf ends opposite center of first I. Leaf ends opposite center of A. Third I slopes down to right relative to horizontal divider. Both periods near top of line.	4
H	Leaf under V has angular bend to vertical position. N is too low. A tilts right. Large lion touches line. Leaf ends opposite center of first I. Leaf ends opposite left tip of right base of A. Third I slopes down to right relative to horizontal divider. Periods above center.	8
J	Right top of V higher at right end. Second I touches arms. A tilts to right and its right base is defective. Third lion touches branch. Leaf ends opposite center of first I. Leaf ends opposite center of left base of A. Third I is parallel to horizontal divider. Periods centered.	27
K	V touches and second I is very close to arms. A is high. Third lion touches branch. Leaf ends opposite center of first I. Leaf ends opposite left tip of right base of A. Right side of third I parallel to horizontal divider. Period above center line of A. Period after 3 centered.	24
M	VIR widely spaced. Second I close to arms. Leaf ends opposite left side of upright of first I. Leaf ends opposite center of A. Third I parallel to horizontal divider. Periods centered.	25
N	V is low. G is large and curls up at top. Second I touches arms. Third lion almost touches branch. Leaf ends opposite left side of upright of first I. Leaf ends opposite left tip of right base of A. Third I slopes slightly up to right relative to horizontal divider. Both periods slightly above center line.	20 21
O	V is low. Leaf ends opposite left side of upright of first I. Leaf ends close to and opposite right side of left base of defective A. Third I parallel to horizontal divider. Periods higher than center.	4

<i>Rev. Letter</i>	<i>Special Features</i>	<i>With Obv.</i>
P	V is low and touches leaf. G is too high and much nearer R than I. Second I shows double cutting. Leaf ends opposite left side of upright of first I. Leaf ends opposite left tip of right base of A. Third I is parallel to horizontal divider. Period near top line of 3. Period after A centered.	4
Q	V is low. Top of 3 higher than 7. Left base of A is high. Third lion touches branch. Leaf ends opposite left tip of first I. Leaf ends opposite center of A. Left side of third I slopes slightly down to right relative to horizontal divider. Periods centered.	23
R	V is low and very close to arms. Second I touches arms. N is low. Leaf ends opposite left tip of first I. Leaf close to and ends opposite right tip of left base of A. Third I parallel to horizontal divider. Period after 3 centered. Period slightly above center line of A.	23
S	V distant from first I. Second I close to arms. Third lion touches branch. Leaf ends opposite left tip of first I. Leaf ends opposite center of A. Third I slopes down to right relative to horizontal divider. Period at top line of 3. Period above center line of A.	22
REVERSES WITH 8 STRING HARP		
X	V is low, tilts right and is close to leaf. Second I touches arms. Large lion touches line. Leaf ends opposite left side of upright of first I. Leaf close to and ends opposite center of narrow A. Third I slopes down to right relative to horizontal divider. Period higher than center line of 3. Period near top line of A.	6 20
Y	V is distant from first I. Second I almost touches arms. N is low and almost touches arms. Third lion touches branch. Leaf ends opposite left side of upright of first I. Leaf close to and ends opposite right tip of	26

<i>Rev. Letter</i>	<i>Special Features</i>	<i>With Obv.</i>
Y	left base of A. Third I parallel to horizontal divider. Period after 3 centered. Period higher than center line of A.	
Z	V is low. First I tilts right. Third I almost touches branch. Leaf ends opposite right tip of first I. Leaf ends close to and opposite center of narrow A. Third I slopes down to right relative to horizontal divider. Flat period above center line of 3. Flat period near top line of A.	5

REVERSE WITH 9 STRING HARP

RM	Period after date nearer V than 3. Leaf ends right of right base of first I. Leaf ends left of left base of A. Third I slopes down to right relative to horizontal divider. (Description covers impression from die in Royal Mint Museum.)	—
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The author will be grateful if readers will check specimens of Virginia halfpence so as to find such new dies and new combinations of dies as may exist. Gaps in the die designations have been left open for that purpose. Crosby indicates that twenty pairs of dies seem to have been used,⁶⁷ but that is only an estimate.

⁶⁷ Sylvester S. Crosby, *The Early Coins of America*, p. 339.

ACKNOWLEDGEMENTS

Many of the coins examined are from the superb collection of F. C. C. Boyd without whose continued encouragement and cooperation the author's research in early American numismatics would be drastically limited. The writer also wishes to acknowledge the courtesies of Missouri Historical Society, Harvard Law School Library, New York Historical Society, Virginia Historical Society, American Numismatic Society, Colonial Williamsburg, The Royal Mint of England, The English Public Records Office, Raymond H. Williamson, John J. Ford, Walter H. Breen and Sir John Craig for assistance in gathering source material.

APPENDIX A

AN ACT FOR THE BETTER SUPPORT OF THE CONTINGENT CHARGES OF GOVERNMENT

*(10th George III, Chap. XII,
passed December 20, 1769 at Williamsburg, Virginia)*

I. WHEREAS it hath been judged expedient * * * to direct an application to be made to his majesty to permit copper money to be imported into this colony, to the value of two thousand five hundred pounds sterling, and pass for the greater conveniency of change in small payments: * * *

II. And be it further enacted, by the authority aforesaid, That if his majesty shall be graciously pleased to permit copper money to be brought in, and pass in this colony, the said treasurer shall, at the public expence, cause so much of such copper to be purchased in Great-Britain as at the rates, at which it doth pass there, will amount to two thousand five hundred pounds sterling, and to be imported into this colony; and shall pay the same away at the British rates to any persons having legal demands against the treasury, in such proportions as is directed by an act of assembly, made in the first year of the reign of king George the second, intituled An act for the better regulating and ascertaining the current rates of silver coin with this dominion, and for preventing the evil practice of cutting foreign gold into pieces; or the said treasurer may exchange such copper at the rates aforesaid for other money, with any person desiring such exchange, and such copper money shall thereafter be current, and pass in payment in this colony, according to the directions and limitations in the said last mentioned act. * * *

APPENDIX B

AN ACT TO AMEND THE SEVERAL ACTS OF ASSEMBLY RESPECTING THE CURRENCY OF COPPER MONEY IN THIS COLONY

*(12th George III, Chap. XVII,
passed April 8, 1772 at Williamsburg, Virginia)*

I. WHEREAS by an act of the general assembly, passed in the first year of the reign of his late majesty king George the second, intituled An act for the better regulating and ascertaining the current rates of silver coin within this dominion, and for preventing the evil practice of cutting foreign gold into pieces, it is, amongst other things, enacted, that if his majesty, his heirs, or successors, should think fit, at any time thereafter, to permit copper coin to be brought in and pass in this colony, the same should pass and be current at the like rates it doth pass in Great-Britain. And whereas by one other act of assembly, passed in the tenth year of the reign of his present majesty, intituled An act for the better support of the contingent charges of government, it is, amongst other things, enacted that if his majesty should be graciously pleased to permit copper money to be brought in and pass in this colony, the treasurer should, at the public expence, cause so much of such copper to be purchased in Great-Britain, as at the rates at which it doth pass there would amount to two thousand five hundred pounds sterling. And whereas it is represented to this general assembly, that it will be more convenient for the purposes to which copper money is usually applied, to have the same coined into halfpenny pieces of the value of so much current money of Virginia, instead of sterling money of Great-Britain, and that the value of one thousand pounds sterling, in such currency halfpence, will be sufficient to answer the present occasions of the colony: Be it therefore enacted, by the Governor, Council, and Burgesses, of this present General Assembly, and it is hereby enacted, by the authority of the same, That so much of the last mentioned act as impowers the

treasurer to import copper money, to the amount of two thousand five hundred pounds sterling, is hereby repealed.

II. And be it further enacted, by the authority aforesaid, That if his majesty should be graciously pleased to authorize the circulation of copper money in this colony, the treasurer for the time being shall, at the expence of the public, import so many halfpence of the value of the current money of Virginia as may be purchased for one thousand pounds sterling, exclusive of cost and charges, to be issued and exchanged, at the public treasury, for the purposes, and under the regulations, prescribed and directed by the said recited acts.

III. Provided always, That nothing in this act contained shall be construed to restrain his majesty from regulating the currency of the said copper money within this colony, in such a manner as his majesty, by his royal proclamation, or by his royal instructions to his governor, or commander in chief of this colony, for the time being, shall, from time to time, judge proper and necessary.

4.

APPENDIX C

ROYAL WARRANT DATED MAY 20, 1773 FOR COPPER COINAGE FOR VIRGINIA

George R.

Whereas it has been represented unto us by the Petition of John Norton Merchant presented to the Commrs. of our Treasury that our Colony of Virginia did by Virtue of an Act of Assembly past in the 10th year of our Reign make application to Our Right Trusty and Right Wellbeloved Cousin & Councillour Wills Hill Earl of Hillsborough then one of Our Principal Secretaries of State that he would intercede with us for leave to have a Copper Currency in Our said Colony of Virginia And Whereas It has been represented unto us by the Commrs. of our Treasury aforesaid that the said John Norton has proposed to them to undertake the said Coinage and that his Proposal having been referred to you the Master of our Mint for your Consideration You have given your Opinion that the same is proper to be complied with Our Will & Pleasure is And We do hereby authorise and command you Charles Sloane Cadogan Master & Worker of Our Mint in Our Tower of London to receive into Our said Mint from the said John Norton or from such Persons as he shall contract with for that purpose fine Copper in Bars nealed and which when heated red hot will spread thin under the hammer without cracking and which Shall be of a due Size or Thickness to be prescribed by you and out of the same to coin Twenty Five Tons or such lesser Quantity as shall be necessary for our said Colony in Halfpence of such a bigness that sixty of them may make a Pound Weight Avoirdupois excepting such small errors as may happen in and by the unequal sizing of the Bars which errors you shall endeavour that they be not in Excess & Defect above the 30th Part of a Pound Weight and this not by Design but only by accident and if the said Copper Bars do not bear the Assay in Size & Fineness you shall not receive the same but return them back to be manufactured anew and the Quantity of Copper which shall be received by you in Bars from such

Contractors as aforesaid shall be redelivered by you by weight either in Monies to such Persons as shall be duly authorized to receive the same or in the Scissel & Brocage of the said Bars to the said Contractors to be recast & wrought over again at their expence and you shall cause Our Effigies with the Inscription GEORGIUS · III. REX. to be stamped on one side of each Piece & the Virginia Arms on the Reverse with the St. George's Cross leaving out the Escutcheons & Crowns except one Crown at the Top as on the Guinea without Crest supporters & Motto except the word VIRGINIA round the arms with the date of the year and when any Quantity of such Monies shall be coined the same shall be well mixed in a Heap & assayed by counting out sixty Pieces from several parts of the Heap & weighed every Parcel so counted out and you shall also cause the same to be assayed in Fineness by heating some Pieces of the Money Red Hot & Then battering them to see if they will spread thin under the Hammer without cracking⁶⁸ and you shall bear & sustain all charges & waste in cutting nealing Flatting scouring blanching barreling coining assaying weighing & delivering the same at Our Mint in Our Tower of London for Five Pence per Pound Weight avoirdupois exclusive of the twenty shillings per Ton to be paid to our Clerk of the Copper Coinage of our said Mint for overseeing the said coinage & keeping the accounts thereof which said Five pence per Pound Weight & 20s p Ton shall be paid quarterly And for the said allowance of 5d. p £ Wt. & 20s p Ton you are to indemnify & save us & this Kingdom from any Charge & Demands whatsoever in respect of this intended Coinage and the moneyers shall not pay vend or distribute any of the said new coined Monies before the same shall be duly assayed & delivered to you the Master or Worker and We do further appoint & order that all Receipts & Deliveries of Copper in Bars or Scissel & all Deliveries of Moneys from the Moneyers to you & from you to such Persons as shall be only authorized to receive the same with the assays thereof shall be entered in Books by the said

⁶⁸ A test to show whether copper coins were pure was worked out by Sir Isaac Newton. When heated red hot, copper coins could be beaten thin without cracking. The addition of tin made copper easy to roll, but also made hot copper brittle. This test was to prevent tin and other impurities from being added. This test was in use from 1700 until 1860 in England. See: Sir John Craig, *The Mint*, page 220.

Clerk who shall see all the assays performed & the Bars & Money & Scissel weighed & one or more Pieces taken out of every Parcel of Monies assayed to be kept in a Box under his Key & the Key of you the Master & Worker in order to be tried at such times before such Persons as the Commrs of our Treasury for the time being shall appoint And our further Will and Pleasure is and We do hereby command & charge all the officers of the Tower aforesaid That all Persons bringing in Copper in Bars to the said Mint or coming thither for money or scissel of Copper shall have free ingress egress & issue by the Gates & thro' the same Tower & Franchises thereof inward & outward at all times without any arresting disturbance letting or gainsaying of the Chief Governor Constable or Lieutt: or the Porter of any other officer or Person whatsoever to be for any Manner of Debt Matter or Cause whatsoever it be & without any thing given to them or any other for to have such entry and We do further command & require the Gravers Moneyers Smith & all others attending on this service to do their Duty with Diligence & application & to observe the Tasks and Directions given them by you the said Master & Worker for coining our said Monies well & with Dispatch and Whereas the Contractors are to deliver Bars so sized that 60 Halfpennys when cut out of the same shall make a Pound Weight without erring either in Excess or Defect above $\frac{1}{30}$ th Part & it will not be possible to draw the said Bars to so exact a Size without cutting from time to time Halfpenny Blanks thereof and weighing the same. Our further Will & Pleasure is that you do deliver to the s^d Contractors one proper cutter they the said Contractors giving proper security to return the same into Our Mint at the expiration of their Contract and for so doing this shall be as well to you as to all others concerned in this Coinage a sufficient Warrant. Given at our Court at St. James this 20th day of May 1773 in the 13th year of Our Reign.

To Chas. Sloane Cadogan
Master & Worker of Our Mint
within Our Tower of London.

By His Majesty Command
North. Geo. Onslow J. Dyson

APPENDIX D

PROCLAMATION OF NOVEMBER 16, 1774

By the King.—A Proclamation

George R.

Whereas, it hath been humbly represented to us on the part and behalf of our colony of Virginia that a currency of copper money within the same colony would be highly beneficial to our good subjects, the inhabitants thereof, for the more easy and convenient making of small payments; and whereas the Treasurer of our said colony, being thereunto authorized by an Act of our Governor, Council, and Assembly of said colony, passed in the tenth year of our reign, hath delivered to the master and worker of our mint, in our tower of London, a sufficient quantity of fine copper in bars, nealed, for the coinage of five tons of the pieces hereinafter mentioned, after making the just and usual allowance to the officers of our mint; and whereas our said master and worker of our mint hath, in pursuance of our warrant for that purpose issued, coined thereout five tons of pieces of copper coin, of such weight that sixty pieces thereof are equal to one pound weight avoirdupois, without erring either in excess or defect above one thirtieth part, and are of the value of two shillings and sixpence, according to the currency of money in our said province of Virginia; and each piece is stamped on one side with our effigies, with the inscription 'Georgius III. Rex.' and on the reverse with the Virginia Arms, with the St. George's Cross, leaving out the escutcheon of crowns, except one crown at the top as on the Guinea, without crest, supporters, or motto, except the word 'Virginia' round the arms, with the date of the year; which are now ready to be exported to our said colony of Virginia. We have therefore, with the advice of our Privy Council, thought fit to issue this our Royal Proclamation: and we do accordingly hereby ordain, declare, and command, that the said pieces of copper money, so coined, stamped, and impressed, as aforesaid, shall be current and lawful Money of and in our said colony of Virginia, and of and within the districts and precincts

of the same; and shall pass and be received therein after the rate following, that is to say, twenty-four of the said pieces shall pass and be received for the sum of one shilling, according to the currency of our said province of Virginia, and at and after such rate shall be computed, accepted and taken accordingly in all bargains, rates, payments, and other transactions of money. Provided always, and we do hereby further declare, that no person shall be obliged to take more than one shilling of such copper money in any one payment of any sum of money under twenty shillings, nor more than two shillings and six-pence thereof in any one payment of a larger sum of money than twenty shillings.

Given at Court at St. James, the 16th day of November, 1774, in the fifteenth year of our reign.

God save the King.

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PLATES



1773 Trial Copper Halfpenny
on oversize planchet
(Enlarged to $1\frac{1}{2}$ diameters)



1774 Silver Pattern
(Enlarged to $1\frac{1}{2}$ diameters)

II



1



2



3



4



5



6



7



8



9

No Period after GEORGIVS
OBVERSES

III



20



21



22



23



24



25



26



27

Period after GEORGIVS
OBVERSES

IV



A

Six String Harp



B



D



E



F



G



H



J



K

Seven String Harp

REVERSES



M

V



N



O



P



Q



R



S

Seven String Harp (cont.)



X



Y



Z

Eight String Harp



RM

Impression
struck from
die in Royal
Mint Museum

Nine String Harp

REVERSES



Virginia Treasury Notes created by interlineation of available circulating notes engraved in England for proposed use by the James River Bank.



Ornamented protective design and legend printed in Virginia on blank back of James River Bank note forms.

EMERGENCY PAPER CURRENCY
APRIL 1, 1773

CJ
15
A44 AMERICAN NUMISMATIC SOCIETY, ~~NEW YORK~~
no. 136 NUMISMATIC NOTES AND MONOGRAPHS
No. 136

TWO HOARDS OF PERSIAN SIGLOI

By SYDNEY P. NOE



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Two Hoards of Persian Sigloi

By SYDNEY P. NOE

'11



THE AMERICAN NUMISMATIC SOCIETY

BROADWAY AT 156TH STREET

NEW YORK

1956

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HOARD I

The coins of this hoard, 255 in number, appeared on the New York market in the summer of 1950. No information as to where they had been found could be obtained. It was hinted, without any supporting evidence, that they came by way of Smyrna. The presence of a single Croesus half-stater points to a source in Asia Minor. Most of the coins had been cleaned so that it was not observable whether the original surface accretions were uniform. They were offered in two lots. The first consisted of twenty coins, including the half-stater of Croesus; these had been selected for their superior condition. The remainder, 235 in number, and all sigloi, were offered at a price lower than that for the first lot—a price so low that it was apparent that there was slight hope of finding a buyer, and one so low that the original finder must have received very little for them. It was averred that these 255 coins comprised the entire hoard. In my judgment there can be little doubt that both lots came from a single hoard.

The data to be derived from published hoards containing sigloi is disappointing.¹ A large find is known to have been made in Calymna in 1823, but aside from the statement that there were several thousand sigloi along with satrapal issues for Asia Minor, we get very little information.² Of a hoard found near Sardis in 1863 we are told that forty-four staters and eleven half-staters of Croesus were examined along with 145 sigloi,³ an interesting parallel to the present hoard.

¹ Cf. E. S. G. Robinson, "A Silversmith's Hoard from Mesopotamia," in *Iraq*, XII (1950), pp. 49ff. Referred to as Robinson's Mesopotamian Hoard.

² Sydney P. Noe, *A Bibliography of Greek Coin Hoards (Second Edition)* (NNM No. 78), No. 189.

³ *Ibid.*, No. 923.

Dr. Regling noted a hoard from Smyrna in the Constantinople Collection, 149 in number, many countermarked and hammered flat along with four in halves—the condition doesn't promise much should this "bullion" hoard some day become available for study.⁴ Mr. Newell's Cilician Hoard,^{4a} contained 49 sigloi, most which were so hacked and countermarked as to make die-identification difficult. In 1916, a small hoard of 55 pieces which came from Smyrna was described by Dr. J. Grafton Milne⁵ and some important facts for the later groups emerged. A segment of a hoard published by E. S. G. Robinson⁶ contained two sigloi which are described as having the same reverse die as a daric. A recent contribution from the pen of the same writer describes seven sigloi from a Mesopotamian hoard which has long been in the possession of the British Museum.⁷ A discussion of the bearing of these on the dating of our hoard will follow the cataloguing of its contents.

In the brief descriptions which follow, no attempt is made to differentiate the obverse dies because wear or the exigencies of striking make certainty as to any die identity between two specimens difficult. The sequential order is established independently, primarily from the numerical representations of the punch dies. In Group I the pieces from the same punch die are obvious on PLATE I and are further indicated in the catalogue by the numbering.⁸ Among the pieces coming late in the hoard, Nos. 165–184 are from the same pair of dies, but only four of these (and one enlargement) are shown on the plates. Pieces having obverse or reverse enlarged are marked with an asterisk. Many of the coins selected

⁴ Ibid., No. 993.

^{4a} Ibid., No. 252. Referred to as Newell's Cilician Hoard.

⁵ Ibid., No. 493.

⁶ Ibid., No. 84.

⁷ *Iraq*, XII (1950), p. 47.

⁸ Beginning with Group II, there is but a single punch die for each group. These dies are lettered A to F.

for enlargement have been chosen in order to show their countermarks. A few of the countermarks which occur on the edges are enlarged on PLATE XV. For the other countermarks, reference is made, where possible, to identical or similar ones in the table contained in Mr. Newell's "A Cilician Find" (*Numismatic Chronicle*, 1914, p. 5) or to the British Museum Catalogue for Arabia, Mesopotamia and Persia, p. cxxxvii, abbreviated to H. (= Hill No.).

1. Lydia, Croesus. Foreparts of lion and bull, facing.
Rev. Two incuse squares, the one at the left the smaller. 5.31

Persian Sigloi—GROUP I. (2-28)

Bearded figure, running or kneeling to right, crowned with *kidaris* and clad in *handys*, with quiver at his back, spear in right hand and bow in left. The arrangement is by reverse-punches in lots, indicated by the numbering, of from one to three, with those considered the simplest in form being given precedence.

2. Simplest form of incuse reverse; cf. E. Babelon, *Les Perses Achéménides*, Pl. I, 3-4. 5.56
- 3*-5. Identical reverses; flaw at left edge, two flecks to right of center. Obverses from three dies. 5.47, 5.60, 5.55
6. Reverse less simple. On edge, countermark, PLATE XV, 1; cf. BMC, *Arabia*, cxxxvii, No. 81. 5.43
- * Hereinafter abbreviated to H. 81 (i.e., Hill No. —).
- 7-9.* Identical reverses. Note irregular flan of No. 9. 5.48, 5.52, 5.63
- 10-11.* Punch shows fish-shaped element to left of center. 4.67, 5.58
- 12*-13. Punch shows snake-like element at left edge. 5.55, 5.56
- 14-15. Note relative sizes of flans. 5.45, 5.43
- 16-17. Surface of punch roughened; impress deeper. 5.53, 5.45

4 *Two Hoards of Persian Sigloi*

- 18-19. Top of punch wider than bottom. On obverse, surface of field shows plowing with tiny chiselmarks made in the die. 5.53, 5.55
- 20*-21. Spear tip outlined (see enlargement). No. 21 has small countermark (repeated) in left field. 5.62, 5.55
- 22*-23.* Note alterations to reverse punch. 5.58, 5.33
24. Punch unusually sharp; may be a recut stage for that of Nos. 12-13. It is identical with Cilician Hoard No. 114 not illustrated by Newell, but in his collection. 5.62
- 25.* Note bevel toward rim in left field of obverse. Countermarks on obverse and reverse. 5.61
- 26.* Quiver and handle of spear well defined; head disproportionately large. 5.45
27. Obverse countermark applied three times (cf. No. 6 and H. 8 and 81). Two additional on edge:
a. PLATE XV, 2 and b. similar to H. 95. 5.53
28. Bevel in left field of obverse. 5.66

GROUP II. Reverse A (29-39)

Eleven coins with same punch die (A) distinguished by a fish-shaped element to left of center. The left edge of the punch breaks down and unites with this element as the die becomes worn.

29. Countermark, PLATE XV, 13, on edge as on Nos. 5 and 206. 5.57
30. 5.47
31. Countermark on obverse. H. 19. PLATE XV, 8. 5.55
- 32-37. 5.58, 5.53, 5.52, 5.45, 5.51, 5.58
38. Two incomplete countermarks on edge. a. PLATE XV, 13?
On reverse, cf. H. 150. On obverse, gouge (not countermark). 5.57
39. Countermark on edge like H. 6, PLATE XV, 3, and Newell No. 36; a second incomplete. 5.43

GROUP III. Reverse B (40-65)

Twenty-six coins with punch-die B, marked by an element resembling a barley-corn to the right and slightly above the center. Above, and near the top, a slightly larger globule.

- | | | |
|--------|---|------------------|
| 40.* | Coin notably thicker at lower left. | 5.57 |
| 41. | Flan unusual in shape. | 5.60 |
| 42. | Imperfectly applied countermark at lower left on obverse, possibly H. 95. | 5.47 |
| 43.* | Eagle's head countermark on obverse, PLATE XV, 4 (like that on No. 62). | 5.58 |
| 44. | Irregular flan with distinctive edge. | 5.45 |
| 45. | Countermark on obverse, triskeles; obverse badly pitted; punch weakly impressed. | 5.46 |
| 46. | Countermark superimposed on royal figure, cf. H. 205. | 5.62 |
| 47. | | 5.45 |
| 48. | Triskeles countermark on obverse as on No. 45. | 5.55 |
| 49. | | 5.55 |
| 50. | Weak edge; countermark resembling H. 6 or H. 7 and No. 39 preceding. | 5.67 |
| 51. | Countermark in right field of obverse; cf. Newell 20 and H. 148. | 5.55 |
| 52-54. | | 5.57, 5.57, 5.55 |
| 55. | Indeterminate countermark(?) in left field of obverse. On reverse, wheel-shaped countermark (cf. H. 38) applied inside punch-impress. | 5.58 |
| 56-57. | | 5.52, 5.51 |
| 58.* | Note that flattened bubble in right field has received impress of obverse die. Further bubbles show on edge. | 5.52 |
| 59. | Flan slightly cupped because of punch impact. Note reverse flattening at extreme right. | 5.52 |
| 60-61. | | 5.57, 5.53 |
| 62. | Eagle's head countermark, PLATE XV, 4, on obverse like that on No. 43. On edge, countermark slightly resembling a <i>fleur-de-lys</i> . | 5.57 |

63. Ram's or calf's head to right, PLATE XV, 7, counter-
marked on obverse. Illustration inverted on plate. 5.43
64. Countermark on obverse remotely like H. 108. 5.53
65. 5.62

GROUP IV, Reverse C (66-83)

Eighteen coins from punch die C. A crescent-shaped element at the lower left has its slightly thickened upper tip joined to the left edge of the punch; an irregularly lentoid shape at the center is in some specimens joined to the upper edge by a thin line. This punch occurs in Cilician Hoard but the coin on which it occurs is marked by Mr. Newell as "Not described."

66. Incomplete countermark superimposed on regal figure on obverse. On reverse, a second stamp resembles a crude mask (PLATE XV, 8) and two gouges may have been countermarks. Cf. Newell 26. 5.57
67. 5.55
68. Obverse field at lower left weak because reverse punch is off center, as well as because of ↑ ↘ relation of the dies. 5.58
69. Large flan with both sides nearly complete. 5.58
70. Ring-shaped countermark on obverse at lower right; on reverse, boar's(?) head (PLATE XV, 9) to left. 5.47
71. Triskeles countermark as on Nos. 45 and 48. 5.46
72. Cross-like countermark in left field below top of spear; also occurs on No. 405 of Hoard II. 5.56
- 73-74. 5.46, 5.48
75. Left edge shows resemblance to lamination. 5.57
76. Note irregular edge. 5.45
77. Two countermarks on obverse, animal head (PLATE XV, 10) like that on reverse of No. 70 (boar?) and quatrefoil. 5.62
78. Punch die off center, and left portion of obverse thicker. 5.43
79. Reverse shows lamination at left. 5.46
- 80.* Four cavities show on obverse; edge bubbled. 5.55

- 81-82. 5.56, 5.55
 83. Countermark on reverse, interlaced or repeated
 crescents. The edge is exceptionally rough and thick;
 the punch is weakly impressed. Edge countermark,
 PLATE XV, II. 5.58

GROUP V. Reverse D (84-96)

Thirteen coins from punch D. A short triangle-shaped element is pendant from the top edge. The left edge shows a breakdown at its midpoint. The large element at the extreme right undergoes modifications, a blunting of the original (?) shape shown in No. 86 rather than recutting. Possibly an earlier state of Punch E.

84. Note that line of spear is not straight. 5.60
 85. Bubble shows at top on obverse. 5.58
 86. Note on reverse, excrescence at right. 5.57
 87.* Figure in unusually high relief (recut?); note curve to
 spear. Enlargement on PLATE XI. 5.60
 88. Flan unusually small. 5.53
 89.* Thickness of flan is cause of smallness of obverse die-
 impress. 5.65
 90-92. 5.54, 5.55, 5.55
 93-94. Possibly same obverse die. 5.58, 5.62
 95. 5.60
 96. 5.58

GROUP VI, Reverse E (97-138)

Forty-two coins from punch die E. Long element shaped like an arm, extends from the upper right to the middle of the lower edge. A tiny fissure shows at the lower left corner. Sometimes another fissure shows parallel to the right edge.

97. On obverse, a gouge (not countermark) behind head. 5.57
 98-101. 5.50, 5.51, 5.48, 5.55
 102. Gouge, not countermark, on torso of figure. 5.53
 103.* Note very thick bow-string. 5.57

104.	Countermark like that on No. 21.	5.53
105-108.		5.62, 5.60, 5.60, 5.57
109.*	Note edge and shape of flan.	5.60
110.	On obverse, note bevel in right field.	5.62
111.	Reverse shows rough edge at top and gouge in right field.	5.58

The obverses of Nos. 112-138 are alike and convincingly from the same die. Such differences as are observable could be explained as due to ineffectual striking, re-cutting or circulation wear. Die-flaws which are visible on some coins are off-flan on others. If more than one die is represented, the copying has been very accurate.

112-119.	5.45, 5.52, 5.51, 5.60, 5.60, 5.40, 5.62, 5.60
120-125.	These pieces show a peculiar doubling of the upper part of the bow, best seen in No. 121. There is also visible a roughened surface at the lower left, apparently caused by the course of a tiny chisel in an effort to modify the relief of the figure. 5.43, 5.62, 5.57, 5.52, 5.53, 5.67
126-132.	5.58, 5.57, 5.55, 5.53, 5.53, 5.56, 5.40
133-138.	5.57, 5.61, 5.62, 5.58, 5.50, 5.58

GROUP VII. First State of Reverse F (139-164)

This punch has two nearly equivalent fish-shaped elements, the one to the left joined at the top to the left edge; the other, slightly higher on the flan and to the right of its center. Above them, and slightly to the left of the medial line from top to bottom, a small globule in low relief.

139.*	Note irregularity of flan.	5.55
140.	Triskeles countermark; differs from Nos. 45, 48 and 71.	5.59
141-142.		5.55, 5.61

- 143.* Turtle-shaped countermark on obverse (cf. H. 100).
On edge, countermark similar to H. 94. 5.53
- 144-145. Note edges. 5.40, 5.52
- 146.* On obverse, one or more indeterminate countermarks
in right field; on reverse, countermark shaped like
letter *pi*. The crack in the flan extends through to the
obverse. 5.62
147. Note that form of obverse is due to flan not having
been flattened sufficiently. 5.55
- 148-151. 5.34, 5.45, 5.55, 5.51
- 152-153. Note distinctive edges showing on the reverse. 5.54, 5.48
154. Edge shows fold in metal; flan thicker to right of ob-
verse. Crescent countermark on obverse. 5.47
155. Quatrefoil and second countermark like that on
Nos. 70 and 77. Note nearly perfect impress of punch
die made possible by shape of the flan. 5.54
156. Two countermarks on obverse: (1) X (cf. 72 and
B 405); (2) X within square. 5.54
157. Four countermarks: on obverse, (1) X (cf. 156); (2)
indistinguishable (cf. H. 68); on edge, (3) similar to
Nos. 64, 108 and 143; on reverse (4) tetraskes (cf.
No. 25). 5.51
158. Edge lumpy. 5.62
- 159.* Well centered and well struck. 5.49
160. Die-positions $\uparrow\nearrow$; as a result, bow not struck up. 5.57
161. 5.54
- 162.* Countermark on reverse shaped like a spread *lambda*. 5.53
- 163.* Rough edge shows bubble. 5.62
164. Die-positions $\uparrow\nearrow$; countermark (PLATE XV, 13) as
on Nos. 64, 108, 143 and 157. 5.58

GROUP VIII, Second State of Reverse F (165-255)

This die shows the enlarged elements of the first state (especially the globule and the one to the right) and a tiny letter A added just below the mid-point.

Nos. 165-184 are from the same pair of dies.

- 165.* Note surface in lower left field in enlargement. 5.51
- 166-170. First three pieces illustrated. 5.49, 5.49, 5.58, 5.53
- 171.* Reverse enlarged on PLATE X. Die-positions.
- 172-177. 5.59, 5.51, 5.51, 5.52, 5.53, 5.60
- 178-184. 5.54, 5.54, 5.62, 5.55, 5.54, 5.54, 5.49
- 185-191. 5.53, 5.54, 5.46, 5.52, 5.59, 5.53, 5.51
- 192.* Note stringy bubble at top. 5.52
- 193-194.* Reverse of No. 194 enlarged. 5.59, 5.56
195. Spear-point and bow unusually clear. 5.56
- 196-197.* Reverse of No. 197 enlarged. 5.55, 5.55
- 198-201. 5.52, 5.56, 5.52, 5.52
202. The bow is complete; note curved line of string. 5.55
- 203.* Note doubled line of bow-string in enlargement. 5.53
204. Die-position ↑ ↘. 5.56
205. Gouge in lower left field of obverse. 5.47
206. Countermark (PLATE XV, 13) as on Nos. 5, 29, 164 (on edge). 5.60
- 207-212. Figure slightly reduced in scale. 5.49, 5.60, 5.49, 5.52, 5.49, 5.57
213. Triskeles (cf. 140) countermarked in left field of obverse; on reverse second countermark shaped like an eye (PLATE XV, 14); on edge, indecipherable stamp. 5.53
- 214-217. 5.54, 5.53, 5.60, 5.50
218. Stringy bubble at lower right of obverse. 5.47
219. Countermark like that on No. 51; gouge on exergual line. 5.44
220. 5.64
- 221.* Note discontinuous line of spear. 5.50
222. 5.55

223.*	Obverse countermark like one on No. 143 but smaller in scale; the edge-countermark (PLATE XV, 15).	5.52
224.		5.57
225.	Quatrefoil countermarked in right field of obverse.	5.47
226-229.		5.48, 5.44, 5.56, 5.55
230.	Die-break at top of obverse; bubbles on edge.	5.54
231.*	Well-centered impression.	5.44
232.		5.56
233.*	Reverse enlarged.	5.57
234-237.		5.47, 5.48, 5.65, 5.52
238.	On reverse <i>lambda</i> -shaped countermark in triangular punch.	5.54
239-245.		5.52, 5.49, 5.56, 5.58, 5.55, 5.55, 5.50
246-251.		5.57, 5.50, 5.49, 5.53, 5.53, 5.58
252.	Bow complete; line of spear straight.	5.52
253.		5.49
254.*	Note die-flaws in field and line of spear.	5.53
255.		5.52

Excepting for Group I, in which have been placed those lots of coins from identical punch-dies which number three or less, the coins have been segregated into groups each from a single punch-die. Thus, the coins in Group II were all struck with Punch A, Group III with Punch B, and so on. Primarily, the order of the groups is determined by the number of coins within each. Using the accepted principles of hoard interpretation, the more numerous groups are considered the latest, the progressively less numerous the earlier. In the case of Punch F, there are two states of the die, with 26 specimens from the first state (Group VII) and 91 from the other (Group VIII). Those from the modified die must, of course, be the later, and since Group VIII is the largest section of the hoard, it is in consequence to be considered the latest as well. By the same token, Group V

with thirteen coins from one punch-die has been placed to precede Group VI with forty-two coins from another reverse die.

The arrangement of the groups, however, has not been based solely on the number of pieces from the same reverse punch. An additional criterion, style, had to be called into play. On the confronting PLATES IX and X are the coins of Group VIII with the second state of F as their reverse punch. Twelve obverses (out of 39) on PLATE X have a distinctively "neat" or finished style. Those on PLATE IX (representing 51 pieces) show a style that is far from "neat" and which is not uniform. Because of their greater crudity, the pieces on PLATE IX ordinarily might be considered earlier and even much earlier, were it not for the fact that they bear the impress of the same punch die. The following table shows the proportion between the neat and crude style representations in the earlier groups.

	<i>Rev. Punch</i>	<i>Neat obverse</i>	<i>Crude obverse</i>
GROUP VII	F	14	10
GROUP VI	E	9	15
GROUP V	D	7 ⁹	6
GROUP IV	C	3	15
GROUP III	B	0	20

These proportions and the comparison on the basis of style involves a question of workmanship and provides support for a conclusion that the neat style indicates one (or more) innovators among the die-cutters at the producing mint. The comparison of obverse dies is so unsatisfactory and inconclusive that I have been unable to satisfy myself that the same obverse die occurs in more than one group.

⁹ One omitted.

The enlargements, in addition to offering evidence concerned with technique, support the comparisons of style. Previous efforts at classification have attempted to find portrait characteristics in the royal features which might permit assignment to individual rulers. The enlarged obverses show that this is what one would like to discover rather than what one sees. Throughout the coinage until we reach the latest issues in our hoard (in what we have called the *neat* style), the figure is presented with a head much larger in scale than the body to which it is affixed. In the earlier pieces, the features have a simplified form. The nose is represented by a straight line with a pellet to the left to indicate the nostril. The eye is almond-shaped or globular. Usually, the globular shape has come about as the result of wear. Even in the latest of our groups, the eye has not yet reached the profile form in which it is given on so many Greek coins by 400 B.C. (cf. enlargements of Nos. 221 and 231). The lips in the earliest issues in the hoard are represented by short double lines which give them undue prominence. The voluminous beard is effective in concealing any connection between the head and the torso.

Was the intent the depiction of the royal figure as running rather than kneeling? A kneeling ruler would hardly have needed both bow and spear, but neither is royalty to be thought of as running or even hurrying. But even if running be accepted as the intention, the success of the presentation is scarcely convincing because the exergual line is frequently off-flan, and the absence of any relation to a ground-line provides a touch of caricature owing to the undue length of the trailing right leg.

Between the earliest and latest issues in the hoard there is an intermediate style which can be best observed in the enlargements of Nos. 87, 103 and 109. Here the royal features have fullness of cheek combined with a button nose and a globular eye which bring them into strong contrast with pre-

ceding issues. These pieces must have been contemporaneous, for they share identical punch dies. If they are to be considered as a transition in style rather than the marks of individuality of one of the die-cutters, their number seems to indicate use for more than a brief period.

A glance at PLATE X will show the vast improvement in the style previously referred to as the "neat" style. The features of the figure are now naturalistic, with notable improvement in the treatment of the eye. The head, though still disproportionately large has a better relationship to the rest of the body. There seems to be a slight reduction in the scale of the whole and this occasionally permits the bow to appear on the flan. The disturbing line of the spear seems intentionally minimized. It is in the head, however, that most of the improvement is to be recognized.

The latest issues in the hoard, 91 in number, are from the second state of punch-die F. But although the obverses in what we have termed the neat style preponderate, the proportion of sigloi showing the cruder style, similar to what we find in the earlier groups, is impressive. The dies in the neat style are closely alike, so much so, in fact, as to lead one to think they might have come from the same die and that the slight differences were due to die alterations or repairs combined with defective strikings or wear. Certain coins within this last group are unquestionably from the same pair of dies (Nos. 165-184).

The reverse die F in its two states, is the most remarkable phenomenon of Hoard I. For, after having its details altered by re-cutting, there was added what appears to be the Greek letter A (possibly lambda). This letter, if letter it be, is raised on the coins and consequently must have been engraved on the top-most boss of the deepened die—compare the enlargement on Plate X. No similar occurrence of a Greek letter on the Persian coinage is known to me, and I have no explanation to offer.

Do the die-positions indicate the use of hinged dies? They do show that the same part of the punch is uniformly opposite (i.e., behind) the head of the figure. This might have been accomplished by having a mark or notch on each of the dies, so that these marks could be brought into alignment or near-alignment before striking. Ordinarily, this would result in the die-position ↑↑. We find, however, an occasional deviation either to right or left for a relatively slight angle, and this is the cause of some of the imperfect or incomplete obverse impressions. In my judgment this deviation is not intentional.

With the favorable conditions found in this hoard, we may seek the reason for the variations in size and the irregularities in shape of flan of the sigloi. There is no indication of the employment of the method of preparing blanks used in Sicily, so convincingly elucidated by Sir George Hill.¹⁰ In proportion to their size, the sigloi are thick, and this affords a considerable edge-surface which is not reached by either of the dies in striking. These edges occasionally show small bubble-like excrescences (Nos. 58, 83, 245), and frequently have folds (Nos. 27, 66, 221), ridges (Nos. 12, 44, 230) or lumpiness (Nos. 59, 76, 139, 146, 153, 158).¹¹ Surface-holes such as may be seen on the enlargement of No. 80 (there are five of them on this piece) are not frequent, but they sometimes occur on the edges. Such conditions must have been the result of the forming process.

¹⁰ The practice there started from the globule which was obtained by casting. "The blank was cast in a spherical mould made of two hemispherical halves. The metal flowed into the joint between the two halves making a sort of equatorial ridge around the blank." The globule was then flattened and afterwards placed between the two dies. Cf *Num Chron.*, 5th ser., II (1922), p. 6.

¹¹ Only rarely is there a splitting of the flan (cf. No. 146) such as is common in larger pieces and which is usually explained as having been caused by striking while the flan was still heated because of annealing. Nos. 58, 139, and 146 show flans with sections which seem almost separated from the body of the coin.

Having the effect before us, can the cause be deduced? What are the observable factors?

1. There is but very slight variation in the weights of the coins. A frequency table shows fifty-three pieces ranging between 5.48 grams and 5.52; 101 ranging between 5.53 and 5.57, and 56 pieces from 5.58 to 5.62. There are only seven pieces weighing more than 5.62; the heaviest piece in the hoard weighs 5.67. There are only 37 coins weighing less than 5.48 and only one below 5.33. This piece (No. 10) weighs 4.68 and may be plated. The punch die, however, is the same as that used for No. 11 which weighs 5.58. There are 157 sigloi weighing between 5.53 and 5.62. The weight of the Croesus half-stater is 5.31. Regling's estimate for the Croeseid norm was 5.60; the average weight given by him is 5.38.¹² The edges do not show marks of filing or other effort to modify the weight of individual pieces. There must have been some way of obtaining a close approximation to uniformity in their weight, and this must have been inherent in the casting of their flans.

2. These flans, in spite of the irregularities in the shapes of some of the coins, show a majority that are oval. The objective seems to have been an oval flan rather than a round one. Only a few are nearly circular. Those which are very irregular form a relatively small proportion, but they are the more revealing.

3. The edges of the oval coins are generally rounded, and this condition would seem to have been present even in the original castings of these flans. To obtain such castings, may we not visualize a bed of clay or some suitable material in which, with a tool whose appropriate size had been determined by trial and error, rows of oval holes or depressions had been sunk. This implement would have produced depressions of the necessary depth and would have permitted edges such as we find on the finished coins that have survived.

¹² *Klio*, XIV (1915), p. 98.

4. We can hardly premise that these holes in the clay could have been so graduated as to secure a proper weight of metal per unit when filled. Nor would this have been necessary if we conceive a tiny container which would have held a quantity of molten silver such as would have given the desired weight—the size, again, having been determined by trial and error. This tiny “ladle” could have been of a material to which molten silver did not adhere or which could be readily cleaned after each use.

5. How did the irregular shaped coins with ridged or bubbled edges come into being? Such bubbles seem to have been formed in the cooling of the molten silver being poured into the depressions in the clay. In the early stages of pouring, the silver would flow freely into each hole and fill it. But as the molten metal began to cool, it would flow less readily; and at a late stage when it would no longer flow, it would have had to be returned to the fire. In the irregularly shaped coins (Nos. 139, 166, 212) and the ones with the ridged or bubbled edges (Nos. 44, 83), may we not see castings which were among the last produced from a particular melting, castings for which the metal flowed partway into the depressions in the clay and solidified before reaching the perimeter? The tetradrachms of Athens for the late fifth and early fourth centuries show conditions which are analogous and which are attributable to a similarity in the casting process.

6. The next step would have been a flattening of the castings. This would have involved no more than placing them on an even surface and giving them a hammer blow of sufficient force. Bubbles other than on the edges would have been eliminated by the blow which flattened the casting to a blank. That such a process was used may be observed from the reverses, in almost all of which a flattened field beyond the depressions made by the punch occupies a considerable portion of the surface. This plain field frequently shows a

bevel toward the center which must have been due to the impact of the punch on the blank after it had been flattened. There are pieces, however, which show a second plane inclined toward the edge, and this could have been produced if the hammer-blow for flattening the castings was not perfectly level, with a thicker edge on one side as the result. This condition explains the imperfect impressions (Nos. 9, 25, 35, 64, 143); the metal was not forced into the obverse die for the portion of the flan affected by the bevel.

7. Almost all of the coins in this hoard show that both obverse or anvil die and the punch-reverse are over-large for the flans upon which they have been recorded. They also show one condition of which but a single exception has been as yet discovered in this hoard, that the dies are uniformly in a fixed relation to one another. On the obverse, we find as a result of the smallness of the flan that the type is almost never complete. Occasionally, the reverse punch will be found as a whole on a flan that is unusually spread. The oblong punches never show a lip or side-projection. There is no indication of such a buttressing projection on any of the 255 sigloi in this hoard. What is even more notable is that there is never an indication of a rim or border to the obverse or anvil die. It seems to have been cut in a flat surface which extends around it on all sides. When the punch was held in a truly perpendicular position, the result should have been a perfectly impressed coin had the flan been of uniform thickness. If, on the other hand, the punch in the striking were occasionally out of the perpendicular, the top of the punch which received the hammer blow might become affected in time and, thenceforth, present for subsequent strikings a hammer-surface which was not truly horizontal. This deviation from the horizontal would, in turn, be communicated to the blanks, with the result that the flan would have received more force on one side than on the other. A metallurgist experienced in the behavior of molten silver would

probably be able to read the evidence presented by these coins, and from it to deduce a convincing explanation of the process employed.

The implications of the countermarks on the sigloi in this hoard are very interesting. In the first place, their paucity is significant. The large numbers of coins from the same die-combinations may be interpreted as indicating that their place of burial cannot have been far from the mint in which they were struck. The absence of these bankers' or money-changers' marks has a double significance: (1) The coins would have been recognized as acceptable without the guarantee of the countermark, that is, what circulation they did see must have been inside an area in which there was little questioning of the purity of the metal of which they were composed or of any other condition that was the cause of having them countermarked. That the coins had seen circulation will be apparent from a glance at the plates, but their weights do not vary widely and the countermarks would therefore not have been applied for certifying that they were of standard weight. (2) Of the 254 sigloi in this hoard, only 40 are countermarked. Some of these forty bear more than one countermark, and occasionally the same countermark occurs on more than one of them. The number of times the countermark is found on the edge, fourteen, is surprising. So, too, is the circumstance that the occurrence on the edge is almost invariably in conjunction with a countermark on either the obverse or reverse. In only two instances (Nos. 46 and 66) is the mark placed on the body of the kneeling figure. Such a placement upon the royal figure was considered sacrilegious.¹³ On the obverse, the mark is most frequently placed in the left field where it will not interfere with the figure. On the reverse it occurs on either side of the punch, and also within the punch itself. (3) If the

¹³ Cf. Edward T. Newell, "A Cilician Find," *Num. Chron.*, 4th ser. XIV (1914), p. 28.

accepted interpretation of the cause for these countermarks as bankers' signets is the correct one, they must have either a local or personal significance. There seems no good reason why they may not also have been a small-scale "international" banker's signets. But even then they would have had a limited recognition and acceptance, and whatever the signet guaranteed would have been given recognition within a well-defined area. In another hoard a siglos has been found which bore not less than seven of these marks.^{13a} The largest number on a single coin in this hoard is four (No. 157). A table of such marks has been published by Mr. Hill in BMC, *Arabia* (p. cxxxvii) but this makes no claim to completeness. Many of the pieces in our hoard bear marks occurring in that table. There are also marks not hitherto recorded, and because photographic enlargements are more accurate than line drawings, they are reproduced in that manner. Among those with animal types, Nos. 43 and 62 represent an eagle's head to left (PLATE XV, 4). No. 63 has the head of a calf or ram to right (inverted on PLATE XV, 7). No. 77 is less clearly impressed. I take it to be a boar's head (PLATE XV, 10); it is not unlike the animal head on the early issues of Phaselis. Some of the signets enlarged on Plate XV are distorted by the shadows (e. g., Nos. 11, 16, 21 and 31), whether due to impressions which are too deep or the opposite.

There are also several countermarks which use some form of the triskeles or tetraskes (Nos. 25, 27, 45, 48, 71, 140, 213). It is natural to associate these with Lycia and to recall the heavy proportions of animate forms among the countermarks which are found on the coins of Selge and Aspendus. Imperfections in the applications of these countermarks make it difficult to establish that two independent occurrences are from the same signet-die. I do find, however, four of those which occur in this hoard among those represented in Mr. Newell's "Cilician Hoard" (N97 with 238; N114 with

^{13a} *Num. Chron.*, 4th ser., XVI (1916), p. 2, no. 5.

156; N100 with 51 and possibly 50; N115 with 66). These are similar in form rather than being identical signets. An edge countermark on No. 223 is unusually distinctive and seems not to have been previously published (PLATE XV, 15).

Believing that a chemical analysis of one of the coins of this hoard would prove significant, we turned to one of our members who had been most generous with his help on earlier occasions, Prof. Earle R. Caley of Ohio State University, whose response is printed in full:

"Dear Mr. Noe:

We have completed our analysis of the specimen of a Persian siglos that you sent in May. The results are as follows:

Silver	96.35%
Copper	2.67%
Lead	0.82%
Gold	0.10%
Iron	0.03%
Total	99.97%

I have been able to locate only four previous analyses of sigloi. Lenormant¹⁴ gives results of determinations of the silver content of two specimens and Bibra¹⁵ gives chemical analyses of two others. The two specimens listed by Lenormant contained 93.0% and 94.0%, and these results were probably obtained by fire assay. The analyses made by Bibra gave the following results:

Silver	88.40%	90.10%
Copper	10.53%	8.44%
Lead	0.68%	1.07%
Gold	0.35%	0.28%
Iron	trace	0.11%
Nickel	0.04%	none

¹⁴ Lenormant, F., *La monnaie dans l'antiquité* (Paris, 1878-1879), Vol. 1, p. 190.

¹⁵ E. von Bibra, *Über alte Eisen- und Silber-Funde* (Nürnberg and Leipzig, 1873), p. 41.

"It will be seen that the silver content of the specimen you sent is noticeably higher than that of the four previously examined. Just what this means in terms of chronology or place of mintage I am unable to say, as we lack the necessary data on coins of this type. I believe, however, that it may be significant. A higher degree of fineness is usually associated with an earlier date of issue in a given series, and this may be true here. The presence of lead and the low gold content of this specimen indicates that the silver was obtained from lead-silver ore, probably galena, and not from electrum.

"Thanking you for the opportunity of analyzing this specimen, I am

Sincerely yours,"
(Signed) Earle R. Caley
(July 16, 1951)

HOARD II

Before the previously described hoard was ready for publication, a second much larger find came into my hands in 1952. It was received in several separate parcels, and its finding place was stated to have been Tchal, a small town about forty miles east of Smyrna. The coins were of fairly uniform surface and appearance. A few were partly covered with a hard brown incrustation which refused to yield to ordinary cleaning methods.

The total received comprised 652 coins: 212 half-staters of Croesus, 53 sigloi with the half-figure of the king, 127 with the royal figure carrying bow and spear and 260 drawing the bow alone. The only observable connection with the previously described hoard was in the relatively small proportion of countermarks and in the repetition of some of them. The second largest group of the sigloi, strangely enough, was, with one exception, entirely free from countermarks; the condition of the coins suggests that this group was later than the others. Also notable was the circumstance that the Croeseids were countermarked more often than the sigloi, a few of which latter bore test marks made with a tiny chisel as well. As with the first hoard, it was possible to group the sigloi according to their reverse punches. It was also possible to group the Croeseids in the same manner, and there were some interesting results when this was done. The conclusions regarding the manner of preparing the flans of the sigloi before striking, as deduced from the pieces in the first hoard, were found to hold with this larger number, and it seemed that practically the same conditions also extended to preparation of the blanks for the Croeseids.

The recording of this hoard presented problems. The large number of coins (652) in Hoard II as well as the condition of some of them precluded the possibility of reproducing every piece for publication. However, it was important to make a record of the entire hoard. The coins were arranged carefully in a progressive order determined by the size of lots having the same reverses and then photographed in that order. This permanent record is on file at the American Numismatic Society. Since the time available for studying the coins was definitely limited, this course had to be taken without cleaning the coins first. I am happy to acknowledge the great helpfulness of Mr. Ireton Benson, who volunteered to weigh most of the coins of the hoard. His help to me in checking questions of die-identities makes my obligation to him a very heavy one.

It was possible for the Society to acquire the most significant specimens. These are illustrated on PLATES XII to XIV. Of the Croesus half-staters 18 were selected; of the group with the half-figure, 12; of the group with the royal figure carrying both bow and spear, herein considered the latest of the groups, 12 pieces were chosen (Hoard I, acquired as a whole, contained 254 coins of this type): of the largest group of sigloi, herein considered the earliest, with the royal figure carrying bow alone, 26 out of 260 were selected. Many selections were dictated by the unusual edge countermarks, with the result that some pieces are worn and some encrusted.

In the catalogue which follows, minute variations have not been indicated. Wherever possible, the pieces have been combined into groups with the descriptions preceding. As with Hoard I, countermark identities are numbered according to Hill's table in *BMC, Arabia*, p. cxxxvii, and this reference is abbreviated to H. (Hill). For countermark forms, most of which are new and many of which are edge countermarks, reference is made to PLATE XV.

Croesus Half-Statars

GROUP I.

Pieces of which no other occurrences of either of the reverse punch dies have been identified in this hoard.

Lydia, Croesus. Foreparts of lion and bull, facing.

Rev. Two incuse squares, the one at the left the smaller.

- | | | |
|-------|---|----------------|
| 1-18. | | Wts. 5.24-5.42 |
| 19. | Three edge countermarks: | |
| | a. PLATE XV, 16; b. XV, 17; c. XV, 38? | 5.21 |
| 20. | Edge countermark, Griffon head, PLATE XV, 18 | 5.40 |
| 21. | Countermark on obverse lion, also occurs on reverse of No. 144 (illustrated). | 5.28 |
| 22. | Three countermarks: a. H. 4? on obverse; b. H. 43; c. reversed Z on reverse. | 5.37 |
| 23. | Two countermarks: a. H. 2? on obverse; H. 43 on edge. | 5.30 |
| 24. | Two countermarks: a. H. 53 (twice on reverse), occurs also on 252; b. Crescent on obverse, H. 50? | 5.38 |

GROUP IIa.

Varieties of which there are two specimens from the same pair of punch dies.

- | | | |
|--------|---|-----------|
| 25-26. | | 5.32-5.30 |
| 27-28. | | 5.43-5.47 |
| 29-30. | No. 30 bears countermark H. 156 on obverse | 5.34-5.24 |
| 31-32. | No. 32 bears countermark XV, 31 on edge | 5.31-5.26 |
| 33-34. | | 5.35-5.38 |
| 35-36. | | 5.38-5.29 |
| 37. | | wt. 5.34 |
| 38. | Two edge countermarks: a. Human foot, XV, 19; b. Bull or goat's head r., XV, 20 | 5.46 |
| 39-40. | | 5.32-5.31 |
| 41-42. | | 5.40-5.26 |
| 43-44. | No. 44 with reverse countermark H. 90? | 5.32-5.30 |
| 45-46. | | 5.38-5.31 |
| 47-48. | | 5.35-5.36 |

GROUP IIb.

Varieties which have differing obverses but the same reverse punch dies.

49-50. to 65-66. 5.30-5.38

GROUP III.

Varieties occurring in three specimens of which one or more of the reverse punch dies are identical. (Certainty of identity of obverses often impossible)

- 67-69. Obverses all different; Reverses small punch 2/1
5.35, 5.32, 5.39
- 70-72. Obverses all different; Reverses identical 5.36, 5.41, 5.37
- 73-75. Obverses all different; Reverses identical 5.35, 5.29, 5.36
- 76-78. Obverses all different; Reverses, small punch 2/1
5.39, 5.34, 5.43
- 79-81. Obverses all different; Reverses, large punch 2/1
5.32, 5.36, 5.27
- 82-84. Obverses all different; Reverses identical 5.37, 5.30?, 5.22
No. 84 bears countermark H. 43
- 85-87. Reverses identical; No. 85 bears countermark H. 195?
No. 86, PLATE XV, 33; No. 87, bears three counter-
marks on edge: a. H. 42; b. Griffon head (twice);
c. PLATE XV, 23. 5.22, 5.18, 5.24

GROUP IV.

Varieties occurring in four specimens on one or more of which one to three of the small punches of the reverse combine with identical large punches.

- 88-91. On No. 90, two countermarks; a. H. 43; b. H. 2? On
No. 91 countermark H. 83? 5.32, 5.37, 5.33, 5.35
- 92-95. 5.29, 5.36, 5.35, 5.32

GROUP V.

Varieties with five specimens having identities in either or both of the punch dies.

- 96-100. Large punch 4/1; small punch 3/2 wt. 5.22-5.36
 101-105. Reverse punches the same for all five pieces 5.25-5.39
 106-109. Reverse punches the same for all four pieces 5.32-5.37
 110. Punches as on 106-9; edge countermark as on 157 5.32
 111-115. Both reverse punches the same for all five pieces 5.32-5.37
 116-120. Small punch 3/2; five obverses the same? 5.25-5.46
 121-125. Both reverse punches the same for all five pieces 5.30-5.38
 126-130. Both reverse punches the same for all five pieces 5.30-5.39

GROUP VI.

Varieties with seven specimens having identities in either or both of the punch dies.

- 131-137. Both punches the same for all seven pieces; No. 136 bears countermark H. 43 plus test chisel cut; No. 137, obverse countermark (see PLATE XII); b. Similar to H. 59. 5.32-5.36
 138-144. Small punch 6/1; No. 144 has on obverse repeated countermark H. 208 (see PLATE XII), b. reverse mark as on No. 21 and c. indeterminate countermark 5.33-5.41
 145-151. Large punch same for all seven pieces; small punch a. same for 145, 147 and 151; punch b. same for 148, 149, 150; small punch c. 146. No. 151 has an edge countermark a recumbent goat, PLATE XV, 25. 5.27-5.38

GROUP VII.

Varieties with eight specimens having both of the punch dies identical.

- 152-159. No. 157 has edge countermarks a. PLATE XV, 26; b. H. 42 as on Nos. 87 and 573?; c. PLATE XV, 27, also on No. 110; d. cf. H. 54 (repeated); e. H. 43. No. 158 has edge countermark PLATE XV, 31; No. 159 has edge countermark PLATE XV, 31 as on Nos. 158 and 197. 5.26-5.40

GROUP VIII

Varieties with nine specimens having both punches identical.

- 160-168. No. 167 bears countermark H. 90?; No. 168 an indefinite mark, possibly PLATE XV, 28 5.23-5.38
 169-177. No. 176 bears obverse countermark similar to PLATE XV, 33; No. 177 has countermarks a. PLATE XV, 31 on edge; b. PLATE XV, 29 on edge; c. on reverse H. 54? 5.32-5.39

GROUP IX

Varieties with eleven specimens each having both punches identical.

- 178-188. Nos. 183-188 have same obverse die; No. 187 bears countermark PLATE XV, 30. 5.29-5.38
 189-199. No. 197 has edge countermark PLATE XV, 31; No. 198 has obverse mark triskeles; No. 199 has on obverse countermark bull's-head left on lion's snout and b. PLATE XV, 32 (H. 133 reversed) on edge. 5.27-5.40

GROUP X

Variety with thirteen specimens each having both punches identical.

- 200-212. No. 211 bears obverse countermark of two pellets; compare Nos. 144 and 394; No. 212 has edge mark PLATE XV, 31.

SIGLOS, TYPE I (BOWMAN)

Bearded figure kneeling to right, wearing crown and *kandys* (robe), drawing bow and with quiver at his back; an exergual line is frequently off-flan. Reverse: Oblong punch-impress.

213. Singleton with small-scale figure and simplified reverse. 5.32
 214-215. Same obverse and reverse dies 5.34, 5.26
 216-219. Four pieces from same reverse die 5.31-5.40

- 220-225. Six pieces from same reverse die 5.33-5.43
- 226-232. Seven pieces from same reverse die 5.30-5.40
- 233-243. Eleven pieces from same reverse die; No. 242 bears three countermarks, a. PLATE XV, 36; b. PLATE XV, 35; c. PLATE XV, 34. No. 243 has mark as PLATE XV, 35 5.31-5.38
- 244-254. Eleven pieces having same reverse; No. 254 has countermark as on PLATE XV, 37 5.19-5.39
- 255-266. Twelve pieces with same reverse; No. 264 has mark H. 54; No. 265 has crossed chisel marks on edge; No. 266 bears countermark PLATE XV, 39. 5.20-5.37
- 267-285. Nineteen pieces from same reverse die. 5.22-5.40
- 286-306. Twenty-one pieces from same reverse die; No. 306 bears two countermarks, a. H. 42 (also on 393) cf. PLATE XIV, b. cf. H. 100 5.32-5.43
- 307-333. Twenty-seven pieces from same reverse die. 5.30-5.42
- 334-364. Thirty-one pieces from same reverse die. 5.31-5.43
- 365-396. Thirty-two pieces from same obverse die; No. 392 bears indeterminate countermark, possibly H. 104; No. 393 has H. 42 (cf. 306); No. 394 bears on obverse mark having two pellets in diamond—cf. No. 211; No. 395, three countermarks, a. PLATE XV, 39 (repeated), b. on obverse cf. illustr. PLATE XIV (also on No. 511); c. PLATE XV, 38; No. 396, PLATE XV, 31 5.12-5.40
- 397-433. Thirty-seven pieces from same reverse die. 5.29-5.42
- 434-472. Thirty-nine pieces from same reverse die. Nos. 434-438 show top of crown in exergue. No. 438 bears crescent countermark on obverse. No. 439 bears countermark H. 54 on reverse (also on 264). Nos. 440-450 from same obverse and reverse as 434-438. Nos. 451-458 from single obverse and from same reverse as Nos. 434-438. Nos. 459-472 with incrustation or wear which make obverse die comparisons uncertain. 5.26-5.45

SIGLOS, TYPE II (HALF-FIGURE)

Bearded half-figure facing right and wearing crown; in left hand bow with its string parallel to the vertical axis of the die, and in right two arrows with points to right.

- 473-474. Same obverse and reverse; No. 474 countermarked as
 PLATE XV, 31. 5.34-5.35
- 475-476. Same obverse and reverse. 5.35-5.37
- 477-479. Obverses indecipherable; reverses identical. 5.09-5.38
- 480-491. Reverses identical; No. 489 bears square countermark with large pellet at center surrounded by four small pellets, and b. H. 100, cf. No. 306; No. 490, H. 53—also on No. 24; No. 491, a. Similar to PLATE XV, 33 and b. as on Nos. 21 and 144. 5.30-5.40
- 492-503. Same reverses but obverses differ in scale. 5.30-5.40
- 504-525. Reverses identical but obverses with differences in scale. No. 524 has countermark on obverse figure; No. 525 has countermark on obverse figure, a cylix? 5.31-5.41

SIGLOS, TYPE III (SPEAR AND BOW)

Bearded figure to right, wearing crown and *kandys* (robe) in 'running-kneeling' attitude; in left hand bow—in right, spear (held diagonally across body) with knobbed handle, and with tip (frequently off-flan) in lower right field. Reverse: Oblong punch-impress.

526. Obverse small scale; Reverse punch simple in form. 5.34
527. Obverse small in scale; Reverse simple. 5.29
528. Type slightly larger in scale; Reverse less simple singletons. 5.31
- 529-536. Broader in scale and style; Reverse developed. 5.28-5.37
 No. 531 bears countermark (the only one for this group)—cf. illus. PLATE XIII and No. 157, also H. 54.
- 537-539. Same obverse and reverse. 5.32-5.38
- 540-575. Thirty-six pieces from same reverse; Obverse die A, five specimens with three possible additions; Obverse die B, three pieces with two possible additions. No. 257, 4.72; No. 549, 5.09; others 5.24-5.41

576–652. Seventy-seven pieces from same reverse	Five singletons
	5.40–5.44
Three lots of three each from same obverse dies re-	spectively
	5.32–5.45
Two lots of seven each from same obverse dies re-	spectively
	5.32–5.40
Forty-eight worn or encrusted coins with identification	of obverse die uncertain
	5.23–5.43

CROESUS HALF-STATERS —212 pieces

One is faced with great difficulty in making comparison of the obverse dies of the Croeseids. In addition to the customary inequality as to condition, whether as a result of wear on the coin or wear on the die, incrustation and discoloration are frequently present. Often with sub-groups from the same reverse punches there will be disturbing variations in the relief on the obverse, which seem to be due to a difference in the force of the hammer-blow received from the respective reverse punches. It is very unusual for both the lion and the bull to be shown on the flan completely. Thus the details upon which one must depend are at the center of the flan and if one of the punches is impressed more deeply in the metal than the other, there will be a resulting weakness of either lion or bull for which it is next to impossible to compensate in making die comparisons. Because of this, and because in addition the obverse design does not lend itself to sharp differentiation, it is frequently impossible to be sure that two of the obverses of these half-staters are unquestionably from the same die, even though their reverses are obviously identical. Of three sub-groups each of which contained five coins there are two which seem to have all five obverses from the same die—the third shows a division which appears to be 2/1/1/1. In consequence, there is little reliance to be placed on the comparison of obverses aside from wear and that criterion.

along with that of the size of the sub-groups having the same reverse punches, has been used to determine the arrangement.

Fortunately for our purposes the variations for the reverses are much less confusing. Alterations or mendings of the punches, if such took place, have not been recognizable as such. There are occasions in which the same large punch is associated with differing small punches and a lesser number in which the smaller punch is connected with two differing large punches, but both conditions are relatively rare.

Of the sub-groups having two specimens from the same pair of punch dies, some have identical obverses and some have obverses which seem to be different. It follows, I believe, that there must have been variations in the lives of the two reverse punches, and that replacement of either could and did take place. The evidence of this hoard, however, seems to indicate that the same pair were used in juxtaposition more often than they were changed. This would imply that, in general, both were discarded at the same time. Notwithstanding these complications, the number of specimens on which the pair of reverse punches is not duplicated in the hoard is surprisingly small, and, to judge from the wear on the obverse, they do not give indication of being the earliest in the hoard.

No attempt to arrange the Croeseids sequentially was made aside from observing evidence of wear and from specimens having identical reverses as outlined previously.

The presence of several sizable lots in which both obverse and reverse were duplicated encouraged an effort to explain the manner in which the two reverse punches of the Croeseids were applied. It has previously been noted that the smaller of the two reverse punches was, without exception, applied to the left on the reverse, which made it come opposite or beneath the obverse bull, while the larger punch was given to the lion (BMC Lydia, p. 5). The only exceptions to this observation are those very rare instances where both of

the square punches are nearly identical in size. The square punches were, without exception, in the same relative position. When the significance of die positions was first explained by Sir George MacDonald in his delightfully clear article in *Corolla Numismatica*, he observed that in his opinion the use of fixed dies originated in south-west Asia Minor. Support for this observation is now abundantly provided.

The next observable condition showed that the two elements of the reverses were separate punches and not a single unit with two parts, for in a small but not negligible number of instances one or the other of the two is found associated with more than one variety of the other punch. Although one punch is smaller than the other, some means of clamping or otherwise keeping them together must have been used, for the coins show a partition whose uniformity of width (or its deformation) recurs, from which it may be deduced that their relationship was constant.

Our knowledge of ancient coining methods is drawn chiefly from dies for coins which date centuries after the ones we are considering. But with fixed dies and punches which may be interchanged, we may conclude that the obverse die was set in a large anvil or cut directly in an anvil which would be large enough and heavy enough to withstand the blows incidental to striking. If the reverse punches were applied separately they may be visualised as having been inserted in arms which would have a definite and a fixed relation to the anvil die. Each would further have to maintain the same position with respect to the other punch, else we should have variations rather than repeated recurrences of identical relationships on the coins.

The alternative involves the conception that instead of a separate arm for each punch there was a single arm into which both punches were fitted or slotted. In support of this latter view, some reverses show the punches so grown to-

gether that they seem to have been fused (Nos. 199, 211). Whatever methods may have been used, one is forced to the conviction that a single hammer blow was used on the coins.

SIGLOS TYPE I (BOWMAN) —260 pieces

This, the largest numerical group of Hoard II consisted of 260 sigloi with the royal figure holding a bow. Of the fifteen punch-dies represented in this group, one is represented by thirty-nine specimens, while others show thirty-seven, thirty-two, thirty-one, twenty-seven, twenty-one and nineteen with the same reverse. This suggests a minting method differing from that normally ascribed to the Greek centers. There are five pieces of this type which suggest what this method may have been. These five pieces are struck high on the flan leaving an exergual space that is unusually extensive,



ENLARGEMENT OF No 434.

and in this exergual reserve we are able to see the top of a crown such as the royal figure wears in all of the sigloi.

A similar phenomenon is known in other mints which Sir George F. Hill touched upon in his excellent discussion of ancient methods of coinage, where its occurrence is illustrated in several examples, all, however, drawn from coins of a later period. Quoting Hill: "One can only conclude that in each of these cases one die was carelessly hubbed into the

anvil, so close to the other that it was impossible to strike a coin on the latter without getting an impression of part of the former. This is an additional proof that hubbing was practiced, since we can hardly suppose that such a mistake would have been made in the course of the much slower operation of direct cutting."^{15a} Without giving consideration to the conclusion thus expressed regarding hubbing on later coins, I believe that the rejected explanation is the one that applies here. Although the repeated portion of the design is limited to the crown, the form of this crown differs from that worn by the royal figure on this same die where there are four points, whereas the exergual one has five. It seems more probable that the anvil die was large enough to permit the cutting of at least two obverse-type dies, and there may even have been occasions on which more than two were cut. Such multiple cuttings would partly explain the large numbers from the same pair of dies found in these two hoards.

In Nos. 434-472, where these five pieces under discussion occur, there are no less than eleven pieces from this same pair of dies, while a second group contains eight specimens from another obverse, both lots sharing the same punch die. These numbers may be even greater, for among the thirty-nine pieces with this same punch die some were encrusted or so worn that it was impossible to be sure that they did not belong to either of these two obverse dies. Unfortunately, I have not been able to discover a die which embodies the form of the crown seen in the exergue of the five coins.

There is a decided contrast in the scale of the royal figure in coins in this group, which is much greater than for Type III. Compare the illustration of Nos. 242 and 308 with those of Nos. 350 and 402. Nor is this true of the figure alone, it is even more conspicuous when the heads are compared. In No. 242 the head is perhaps slightly too large for the body, but on No. 350, it is grossly disproportionate, nearly, or

^{15a} *Num. Chron.*, 6th ser., VII (1947), pp. 173-174.

quite equalling, the length of the forearm. In No. 319, the arrow is plainly visible above the royal arm, and the lower half of the bow-string shows beautifully, a condition observable in other specimens. The upper half of the bow-string is, however, wisely left to the imagination. Avoiding this dilemma is, perhaps, the reason why the upper tip of the bow is unusually placed so close to the crown. The figure seems intentionally static rather than moving, which is as it should be for an archer.

SIGLOS TYPE II —53 pieces

There are three criteria which may be applied in trying to determine an order or sequence within this group: (a) wear on the obverse; (b) changes or differences in the type; (c) the size of the sub-groups having the same punches. None of these is satisfactorily determinative.

Taking (c) first, we must place Nos. 504–525 as the latest pieces. These coins must certainly be contemporaneous, that is, they must have been struck within the life of the reverse punch. Let us next consider (b). Within this sub-group (504–525) we observe that No. 524 bears a type which is slender and appreciably smaller in scale than the others. This small-scale figure is also to be found in the two sub-groups which are next in size to this one (cf. No. 493), each of which sub-groups contains twelve examples as compared with twenty-two here, a clear indication that the small-scale figure had been favored for an interval which was covered (or partly covered) by the life of three reverse punches. The incidence of the small-scale figure in what we consider the latest sub-group (Nos. 504–525) is only once among its twenty-two specimens. Hence the constriction in scale may have stopped shortly after the use of this, the latest, punch began. Since there is no similar small-scale figure in the smaller sub-groups, here considered the earliest, we cannot

deduce a progression from small to broad type of figure. With there being but six punch-dies in the half-figure type (II), it would seem that use of the small-scale figure was brief and transitional.

TYPE D (Figure with bow and spear), 127 pieces

The seventy-seven coins (Nos. 572–652) from the same reverse punch in this group have strong claim to being considered the latest issues in the hoard. They are the freshest in the find and the absence of money-changers' countermarks, with but a single exception, may imply less circulation as well as great confidence in their genuineness. Dr. Milne's hoard^{15b} contains issues with types later than Type III, but none of Types II and III. Robinson's Mesopotamian Hoard likewise included Type III pieces, but none of Types I and II, and that hoard is dated by him from other coins it contained "about the middle of the first quarter of the fourth century"^{15c}, i.e., 390–385. Hoard No. I, aside from the single Croeseid which M. Seyrig considers to be an intrusion,^{15d} supports the implications of the two other hoards.

COUNTERMARKS OF THE MONEY CHANGERS — HOARD II

There is great variety among the countermarks which occur in this hoard. They are most numerous on the Croesus half-staters of PLATE XII, with thirty-five (out of 212) bearing these tiny signets, in contrast to the six out of a total of 53 pieces in the sigloi group with the half-figures and the

^{15b} *Num. Chron.*, 5th ser., XVI (1916), pp. 1–12.

^{15c} *Iraq*, VII (1950), p. 47.

^{15d} R. Curiel and D. Schlumberger, *Tresors monétaires d'Afghanistan* (Paris, 1953), p. 57.

eighteen out of 260 coins in the sigloi with bow. In Type III a single countermark (out of 127 specimens) is found on the obverse of No. 531, where it is very inconspicuously superimposed on the handle of the spear. Of the sixty countermarked pieces in this hoard (two are questionable) forty-one bear a single countermark, eleven have two (on two coins, one of their respective countermarks is impressed twice), seven have three impressions (again, one is repeated) and a single piece (No. 157) has five differing signets, one of which is repeated. There are ten or more signets which occur on two specimens, and three which are found on three. One mark, the bull's head with the foot showing beneath, although sometimes recognizable only with difficulty because of wear, appears on six coins.

Comparing the signets with those found in other hoards, we find that those in our second hoard are notably smaller in scale than the signets on the sigloi of either Robinson's "Mesopotamian Hoard" or Newell's "Cilician Find." Likewise, there is a difference in the position of their impress on the coin. In our hoard, a greater proportion has been applied to the edges, rather than to the obverse or reverse. It seems to me that these combined conditions, point to a considerable interval between the burial of our Hoard II and these other two.

Among the types outstanding among the countermarks, attention may be called to the human foot on No. 38 (PLATE XV, 19) and the crowned facing head on No. 157 (PLATE XV, 26).

Sometimes countermarks were applied to coins which gave cause for suspicion of their genuineness. No. 38 of Hoard II shows a hole on the obverse. Some of the others have edges with cracks or pittings which suggest plating, but no plated coins have been detected. It is customarily accepted when more than a single signet is present that each guarantees the acceptance of the piece at the shop of the

signet's owner. Under such an interpretation, the coin with five countermarks (No. 157 of Hoard II) would have seen circulation in a number of cities, or, to use the extreme alternative, in a single large city.

In Hoard I, which I believe to be later than Hoard II, the signets are larger in scale. The animal types of Hoard I (PLATE XV, 4, 7 and 9) show more development than those in Hoard II (PLATE XV, 20, 24, 25 and 31), and this is true of the other forms. The countermarks are applied to either obverse or reverse more frequently than to the edges on the later lot (i.e., Hoard I). This tendency is confirmed by pieces in Mr. Newell's "Cilician Find." I believe it is safe to conclude that application to the edge is to be interpreted as the earlier practice. The edge signets are consistently small and simple and few of them are to be found occurring on either the obverse or reverse as well as on the edge.

It is noteworthy that in the earlier Hoard II, the group showing the royal figure holding both spear and bow bears but a single countermark, whereas in the other hoard, which consists of this type unmixed with any other, there are numerous signets.

The scanty occurrence of similar signets in both hoards seems a probable indication that they do not overlap either in point of time or geographically: I note a small triskeles, a doubled crescent (PLATE XV, 12)—the forms are similar but the scale differs: and possibly H 100.

WEIGHTS AND DATING

As has been noted, the first hoard described in this monograph, 256 coins, was received in New York during the summer of 1950 with the usual statement that it comprised the entire hoard. The second lot, 652 pieces, was examined later as a representative part rather than the entire hoard, and was said to have been found in 1945.

The lot examined by Prof. Seyrig (490 pieces)¹⁶ was said to have been found in the region of Smyrna "before January 1946"—how long before being uncertain. The lot examined by Mr. Robinson (1946?) consisted of 228 sigloi and more than 7 Croeseids. There is the information that the 228 coins formed about three-quarters of the total, which would therefore be 304 sigloi—the number of Croeseids is undetermined.¹⁷ The tabulation which follows shows the make-up of these respective segments, and to this should be added the data from a small hoard found in the excavations of Old Smyrna in 1951, and not yet published.

The hoard published by Dr. Milne in the *Numismatic Chronicle* for 1916 contained but two of the sigloi types, the one with the bow and spear and that with the dagger. This dictates a conclusion that the dagger type is the latest of the four. The table shows that the proportionate representation of each of these three sigloi types is about the same for each

¹⁶ R. Curiel and D. Schlumberger, *Trésors monétaires d'Afghanistan* (Paris, 1953), pp. 55–57. This note by Prof. Seyrig supplies the information that the single Croeseid in our Hoard No. I was an interpolation. There is the additional conclusion that Hoard No. I is not part of the lot examined by him (490 pieces).

¹⁷ *Num. Chron.*, 6th ser., VII (1947), pp. 173–174.

TABULATION

Type of Sigloi	ANS H'd I	ANS H'd II	R.'s lot NC 1947	Seyrig's O.Smyrna Lot
Bowman		260	112	165
Half figure		53	16	29
Spear & Bow	<u>255</u>	<u>127</u>	<u>100</u>	<u>83</u>
	255	440	228	277
Croeseids	<u>1 ?</u>	<u>212</u>	<u>7 plus</u>	<u>213</u>
	256	652	235 plus ¹⁷	490

of the three lots listed, and Prof. Seyrig's conclusions that his lot and that seen by Mr. Robinson formed part of a single hoard must now be amplified by the third lot (our Hoard No. II), which on the basis of composition, and countermarks, belongs with the other two. Casts of a small number of sigloi sent to me by Prof. Seyrig bear reverse punches which are represented in our Hoard II. Further, photographs of seven of the Croeseids acquired by the British Museum also bear reverse punches found in our Hoard II, and I have no doubt that bankers' countermarks which were common to all three lots would have been found had either of the other two lots been recorded in detail.

Mr. Robinson's dating is formed with the benefit of the knowledge of the Old Smyrna Hoard which has not yet been published. This hoard contained contemporary silver of Phocaea.¹⁸

A frequency table for the pieces which passed through my hands is appended. My lack of competence as a metrologist is such that I hesitate to offer more than brief observations.

¹⁸ *JHS*, LXXII (1952), p. 106.

WEIGHTS OF CROSEIDS AND SIGLOI FROM TWO HOARDS

	HOARD II			HOARD I
	Croeseid	Bowman	Half fig. Bow & Spear	Bowman & Sp.
5.65-5.67				5
5.60-5.64				34
5.55-5.59				85
5.50-5.54				76
5.45-5.49	4	I	I	39
5.40-5.44	10	24	4	18
5.35-5.39	84	132	25	60
5.30-5.34	80	89	23	37
5.25-5.29	25	9	8	2
5.20-5.24	8	3	2	
5.15-5.19	I	I		
5.10-5.14		I		
5.09			I	I
4.68				I

Hoard I (255 pieces) contained a single Croeseid, which Prof. Seyrig writes was an intrusion. It came to us in 1950,

Hoard II (652 pieces) contained 212 half-staters of Croesus. and sigloi: Royal figure with bow alone 260
with half-figure 53
with bow and spear 127

In accepting the conclusion that Hoard II is the earlier, there is the possibility of an overlapping for the issues of the type with both bow and spear. I have been unable to find any evidence of such an overlapping. I believe that there is stronger probability of a gap between the two hoards, basing this opinion on the nature of the reverse punches which are in contrast to the earlier and simpler reverses although the progression from a simple to a less simple form for this coinage is assumed rather than proven. With our present

information, I see no way of gauging the extent of this suggested interval.

The frequency table does show, however, an increase in the weights for the later hoard (I) and implies a raised or changed standard. A norm close to 5.35 grams for the earlier hoard contrasts with that for the later one (I) of approximately 5.55. Regling's average weight was 5.38 and his estimate of the norm 5.60 grams.¹⁹ This change took place during the suggested interval. No effort to parallel the silver with the gold has been made. Neither Hill²⁰ nor Babelon²¹ list any darics with the bowman or with the half-figure. Can it be that no gold with these types was struck, or are we forced to a highly improbable deduction that all such were melted after the introduction of the type with bow and spear? Recoinage seems the less likely of the two alternatives in the light of the evidence at present available.

If there is an interval between the two hoards, as I believe, the second and larger hoard must precede the first by the extent of that interval—an extent which we at present have no means of determining. The larger hoard contains issues of Croesus, whose coinage must have stopped with his downfall in 546. This hoard contains pieces in circulation in Asia Minor down to the date of the burial of the hoard. If we may reason from the relatively equal wear on the Croeseids and the earliest sigloi (Group B) there would seem to have been little or no considerable break after the death of Croesus before coining the sigloi was started. They might even have begun before 546. Such a conclusion would increase the number of years during which the hoard was being formed.

The smaller and later hoard (I) would seem to have been formed over a much shorter period of saving. The same punch-die which is represented by ninety-one specimens is

¹⁹ *Klio*, XIV (1915), p. 98.

²⁰ *BMC Arabia*, etc.

²¹ *Traité des monnaies grecques et romaines*.

also found in Mr. Newell's "Cilician Hoard" and in Robinson's "Mesopotamian Hoard." It is also to be found in Babelon's *Traité*, Pl. LXXXVII, 7, and in BMC *Arabia*, 198, Pl. XXVII, 26.

The low regard in which sigloi have been held by collectors, with their resulting slight commercial value, is doubtless the reason for their having been given little attention when they have occurred in hoards. Not until we have the record of a hoard containing sigloi along with issues of other mints which may be definitively dated can we determine when such a change took place.

The two hoards here recorded presented a unique opportunity. Previous attempts to classify Persian sigloi had not taken into account the reverse punches and their use for this purpose in this monograph is an innovation. Hill and Babelon considered the order of the types quite the reverse of what Hoard II shows. Robinson in discussing the lot described by him in 1947 (cf. p. 41) believed the order to be: II (Half-figure), I (Archer), III (With spear and Bow), although he conceded that the half-figure group (II) might come after the archer group (I). In a letter he accepts the order assigned herein. It is hoped that the data regarding countermarks will awaken fruitful interest and that the evidence of a raised weight-standard will prove significant for metrologists. Finally, we have another demonstration that coins are their own best witnesses.

KEY TO PLATE OF ENLARGEMENTS OF COUNTERMARKS

HOARD I

1. 6
2. 27
3. 39
4. 43, 62
5. 45
6. 62
7. 63
8. 31, 66
9. 70
10. 77
11. 83
13. 5, 29, 38, 164, 206
14. 213
15. 223

HOARD II

12. 87
16. 19
17. 19
18. 20
19. 38
20. 38
21. 137
22. 87?
23. 87
24. ..
25. 151
26. 157
27. 157

HOARD II

28. 168?
29. 177
30. 187
31. 32, 158, 159, 177,
197, 212, 396.
32. 199
33. 86, 176, 491
34. 242
35. 242, 243
36. 242
37. 254
38. 395
39. 157, 266.

PLATES

I

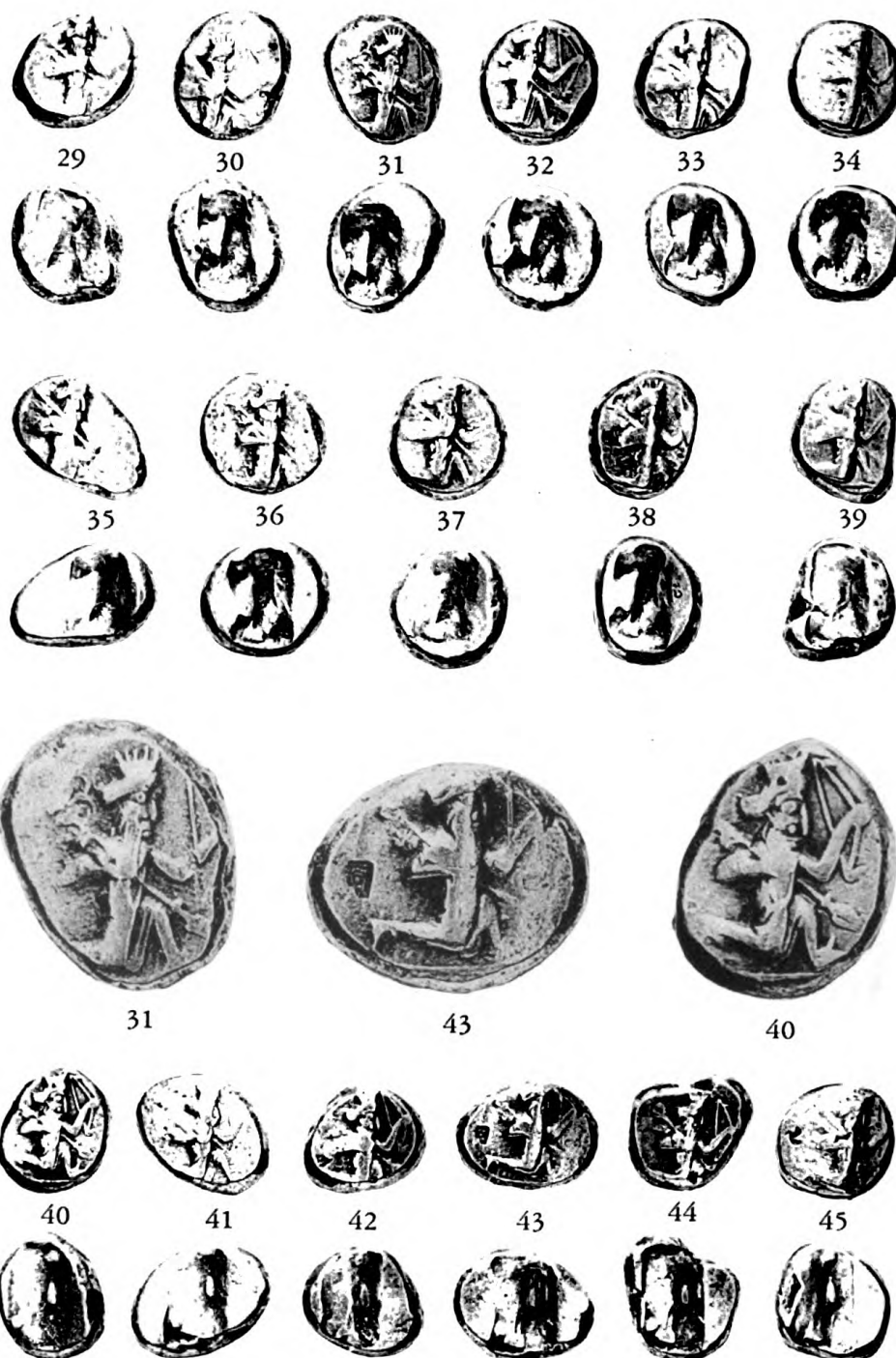


GROUP I



GROUP I

III

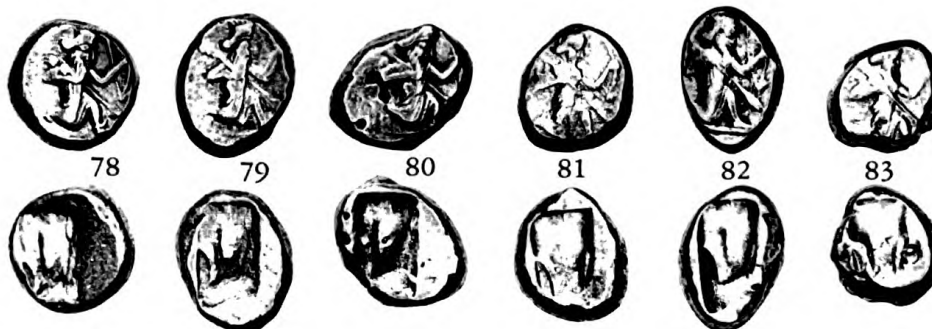


GROUP II, REV. A



GROUP III, REV. B

V



GROUP IV, REV. C



GROUP V, REV. D

VII

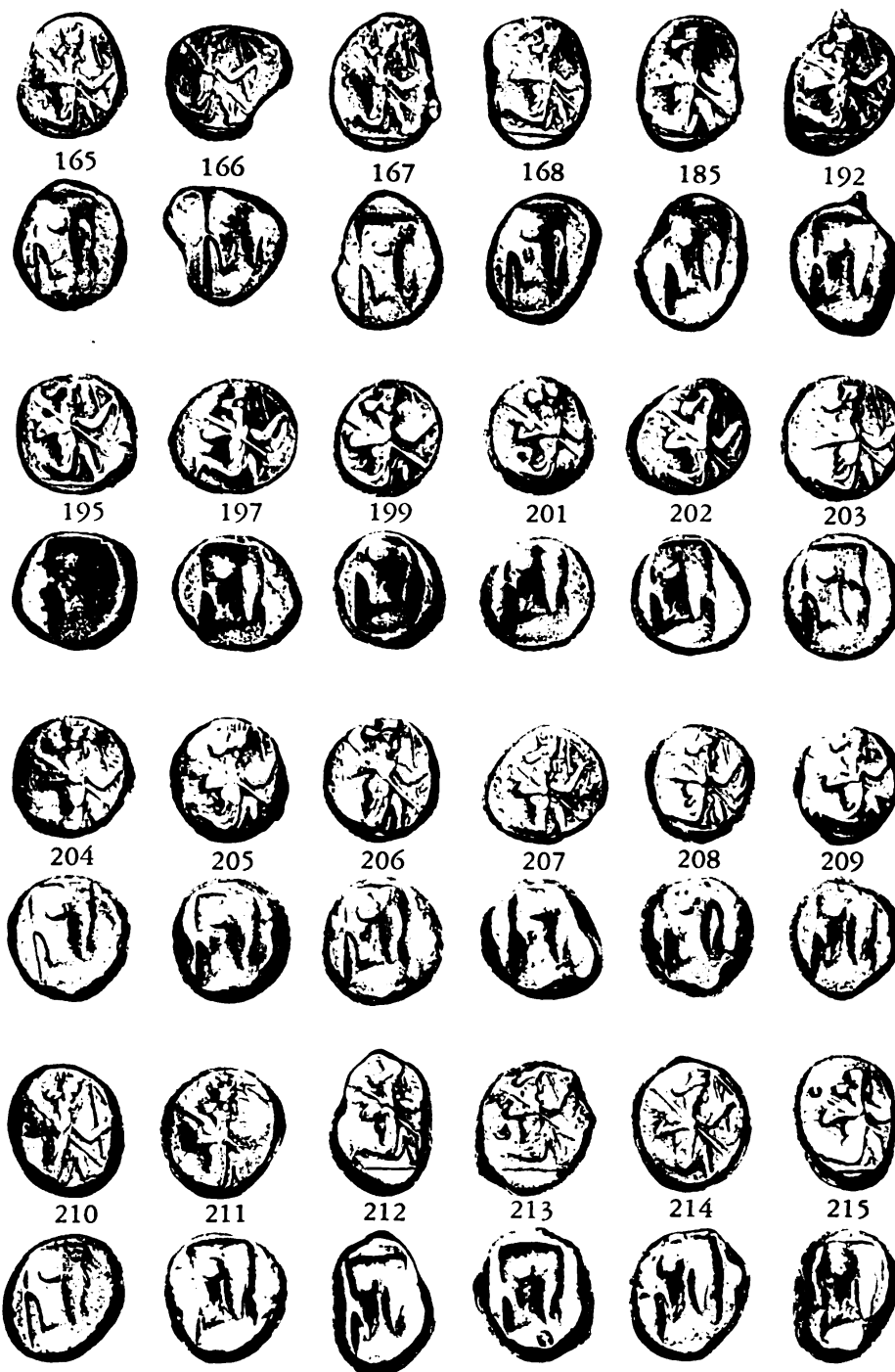


GROUP VI, REV. E

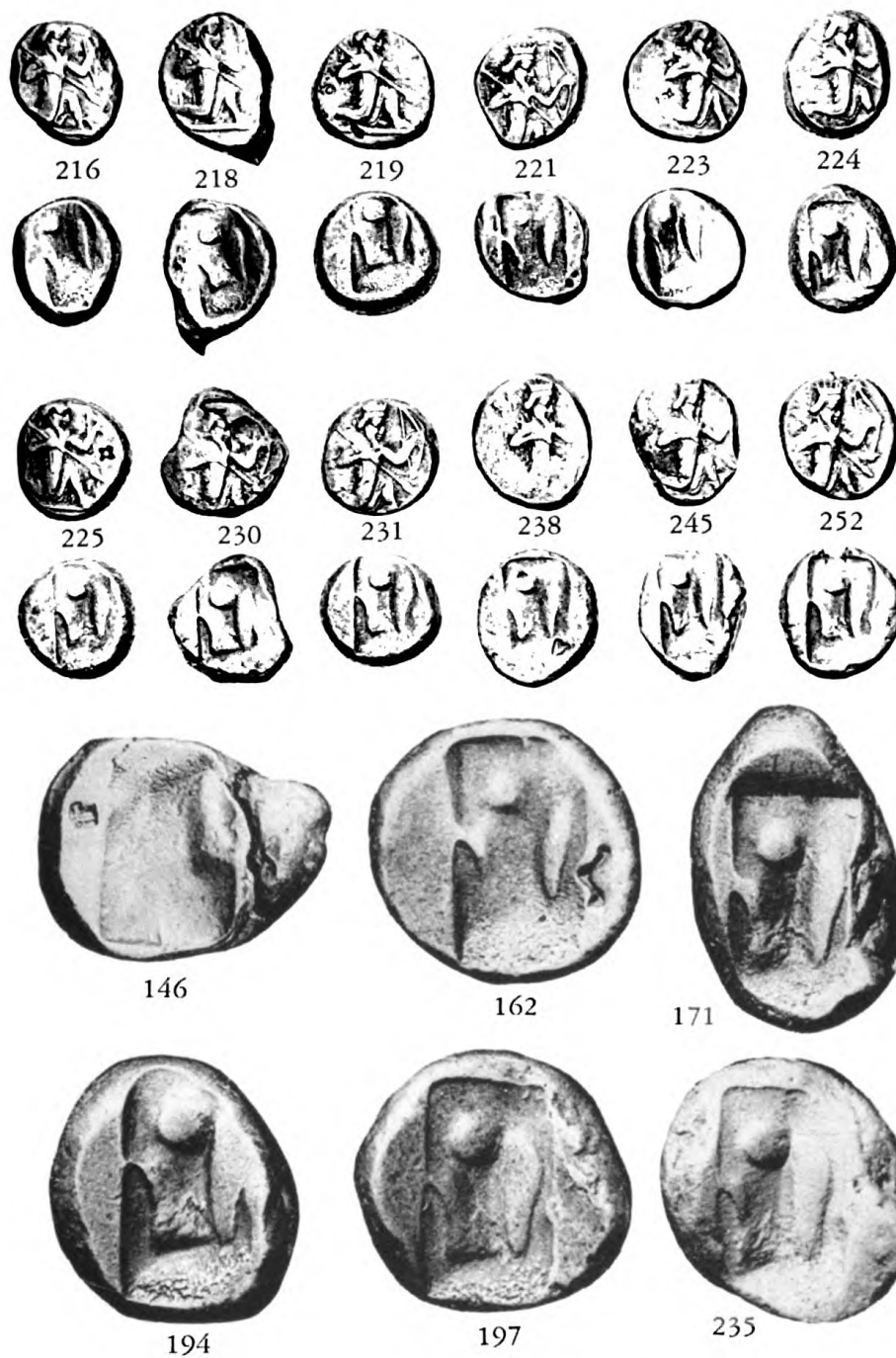


GROUP VII, REV. F (1ST STATE)

IX



GROUP VIII, REV. F (2ND STATE)



GROUP VIII, REV. F

XI



87



159



163



165



192



203



221



223

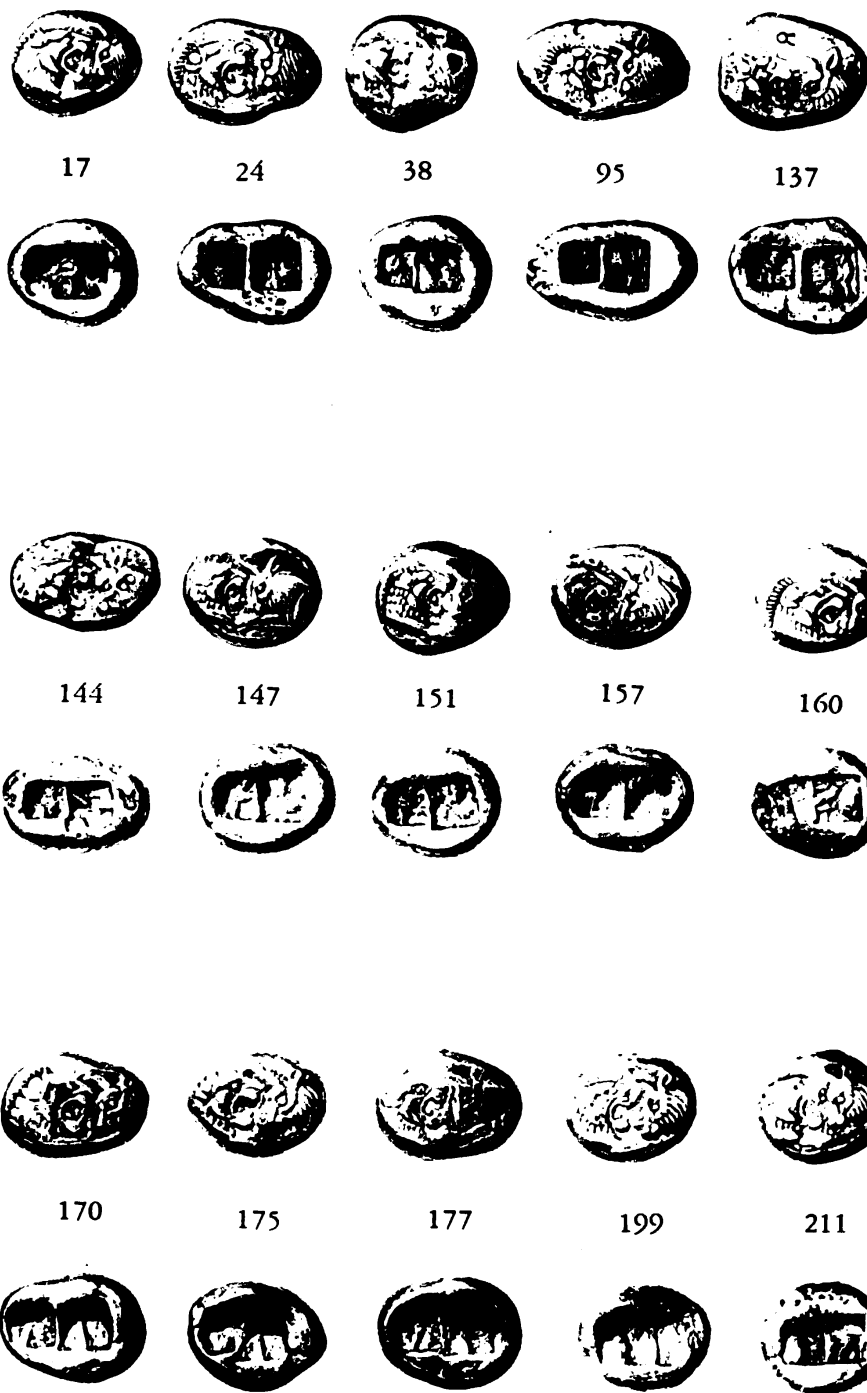


231



254

ENLARGEMENTS



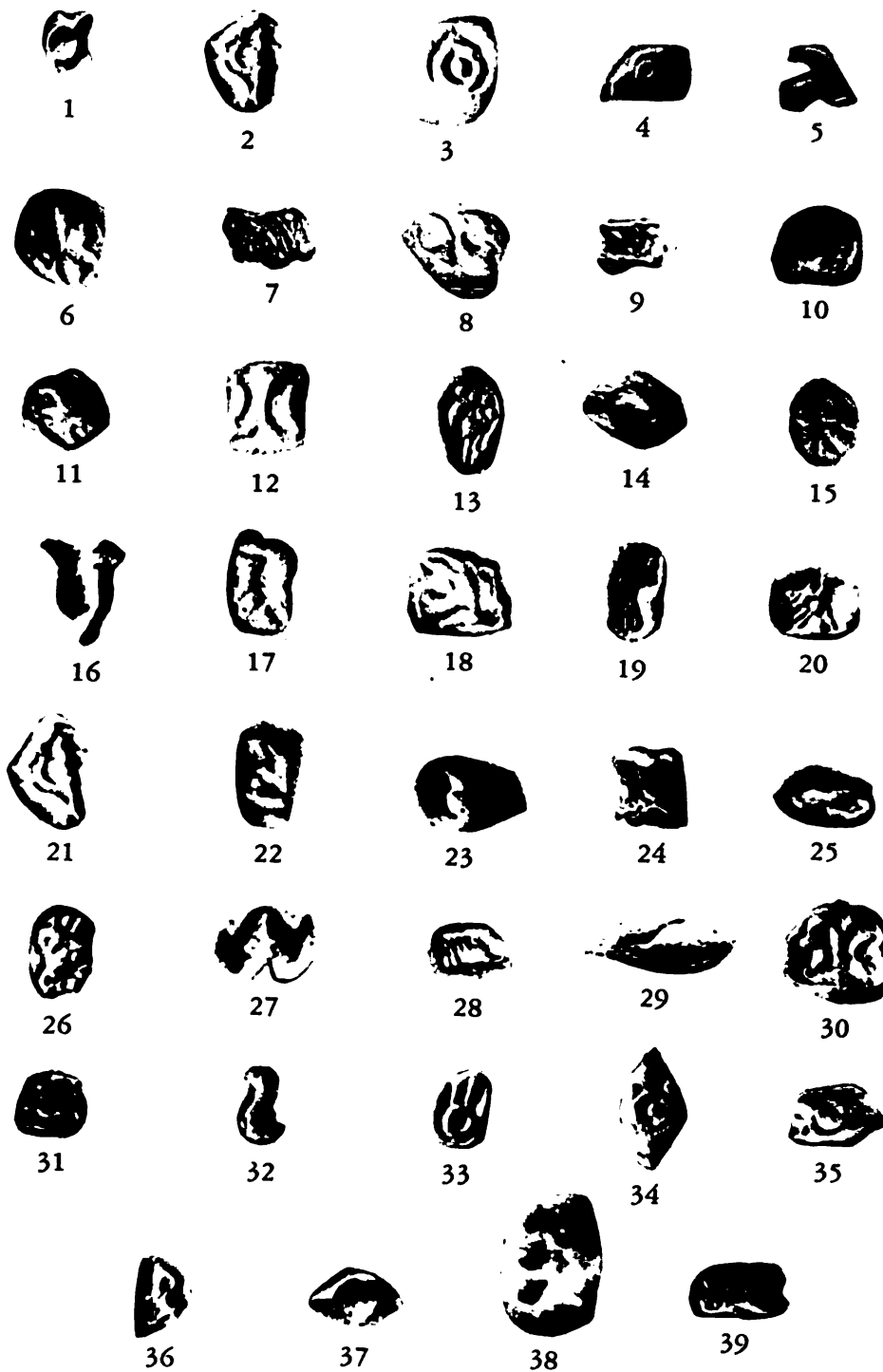
CROESEIDS OF HOARD II



SIGLOI, TYPE I, HOARD II



SIGLOI, TYPES II AND III



ENLARGEMENTS OF COUNTERMARKS

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